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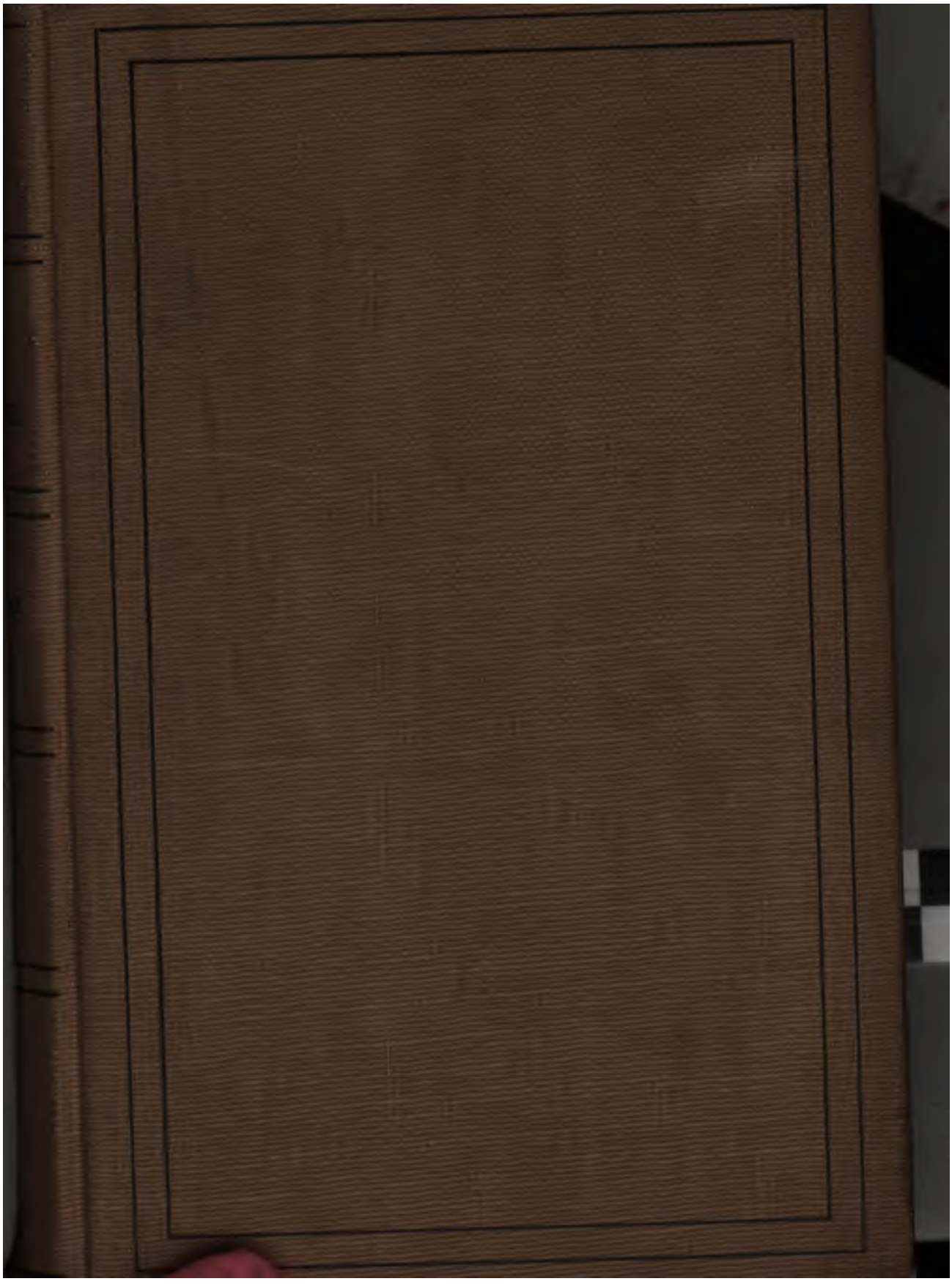

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BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

JULY-SEPTEMBER, 1908

Nos. 334-336

WASHINGTON

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1908

DEPARTMENT OF COMMERCE AND LABOR
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COMMERCE.

GERMANY.

EXTRAORDINARY KNIT-GOODS SALES.

A RECORD YEAR IN POINT OF VALUE AND WEIGHT OF EXPORTS.

In transmitting the following statistics covering the exports of German knit goods in 1907, Consul Thomas H. Norton, of Chemnitz, says that it is not likely the figures will be again reached for several years:

The German Government has just issued detailed statistics in regard to the export of knit goods during the year 1907, which are of interest from several standpoints. The year 1907 was distinctly a record year in point of value of exports, although the official data are confined to weights, the total exports amounting to 20,540 metric tons.

As the greater proportion of these knit goods are manufactured in the Chemnitz consular district, or in near-by localities, these figures offer an interesting view of the extent of production of the chief articles exported from the region of which Chemnitz is the industrial metropolis. The additional quantity of knit goods manufactured in this section and consumed in the German Empire is estimated at from 10 to 15 per cent of the total output.

The following statement shows the total exports of German knit goods, and the exports to the United States and the United Kingdom in 1907:

Description.	Total exports.	To the United States.	To the United Kingdom.
	Metric tons.	*Metric tons.*	*Metric tons.*
Cotton gloves	2,152.0	678.3	933.6
Cotton hosiery	8,920.2	4,274.4	560.2
Cotton underwear	3,622.7	44.3	1,728.3
Cotton fisher nets	219.7		
Miscellaneous cotton fabrics, incandescent mantels, etc	1,527.1	11.0	1,000.3
Silk gloves	173.8	64.5	74.3
Silk hosiery, fabrics, etc	97.8	44.1	19.6
Woolen gloves	178.6	24.0	24.0
Woolen underwear	1,363.1	93.7	580.9
Woolen hosiery, etc	2,285.2	50.1	986.0
Total	20,540.2	5,284.4	5,912.2

The figures in the preceding statement show that the Saxon knit goods manufacturers are chiefly dependent upon the United States and the United Kingdom for the sale of their products. These two countries absorb over one-half the total amount produced. The industrial welfare of the region is therefore to a very large extent

dependent upon the commercial conditions of these two countries, and also of their colonies and dependencies.

It will be noticed that the United States purchased nearly one-half the cotton hosiery and over one-third of all silk knit goods and cotton gloves, while the amount of woolen goods taken was comparatively unimportant.

CHEMNITZ-AMERICAN TRADE.

CONTINUED INCREASE IN THE EXPORTS TO THE UNITED STATES.

Consul Norton, in forwarding the following exhaustive statistics, reports that the close commercial relations between the textile manufacturers of Chemnitz and the importers of the United States was never before so marked as during the year 1907:

The large increase in the American demand for gloves and hosiery which began in 1906 reached its maximum in the summer of 1907. Every establishment was taxed to its utmost to meet the growing needs of the great jobbing houses in the United States. Wages rose, plants were enlarged, and this section of Saxony exhibited a degree of prosperity unequalled in its history. When the financial disturbances in the autumn of 1907 checked American trade, Chemnitz firms had in most cases booked orders for many months ahead, and it may be roughly estimated that the normal output of the mills was in most cases under contract until the close of March for hosiery and the close of May for gloves.

The following statement covering the exports declared for the United States at Chemnitz during the calendar years 1905, 1906, and 1907 and the first quarter of 1908 shows the steady increase in this trade:

Articles.	1905.	1906.	1907.	1908 (first 3 months).
Cotton hosiery	$4,471,702	$6,703,727	$8,141,916	$2,380,211
Cotton gloves	981,764	1,764,401	2,573,357	1,128,578
Silk gloves	133,803	636,613	1,150,280	284,764
Silk hosiery	105,891	225,237	226,794	46,619
Woolen gloves	182,359	254,448	155,089	1,145
Woolen hosiery		49,116	57,455	4,318
Underwear	107,276	173,193	158,043	39,912
Upholstery goods	105,686	93,394	92,318	11,923
Machinery	220,467	225,790	289,250	89,836
All other articles	268,437	585,996	1,666,824	346,460
Total	6,577,385	10,711,915	14,511,326	4,333,766

The inclusion of the first quarter of 1908 in the foregoing statement was for the reason that it marks the close of the effects of the exceptional prosperity in the United States in 1907. The increase, as follows in 1907, in the prices of the leading articles given in the foregoing statement, will help to account for the exceptional prosperity of manufacturers and operatives in Chemnitz: Cotton hosiery, per dozen, January, $1.39; June, $1.44; December, $1.58; January, February, and March, 1908, $1.50, $1.49, and $1.48, respectively. Silk hosiery, per dozen, January, $3.03; June, $3.22; December, $3.41; January, February, and March, 1908, $3.19, $3.25, and $3.14, respectively. Cotton gloves, per dozen, January, $1.57; June, $1.59; December, $1.98; January, February, and March, 1908, $2.05, $2.11, and $2.08, respectively. Silk gloves, per dozen, January, $3.56;

June, $4.03; December, $5.36; January, February, and March, 1908, $4.16, $4, and $3.93, respectively.

The remarkable increase in the shipment of gloves during the past four months is very noticeable, compared not only with the corresponding months of a year previous, but also with any four months preceding the depression in the United States. Upholstery goods alone show a marked retrograde movement during the past few months.

The machines exported from Chemnitz are almost all destined for textile mills in the United States, chiefly for the manufacture of gloves and hosiery.

SUCCESSFUL EXPORT METHODS.

THE SMALLEST MANUFACTURERS CATER TO FOREIGN BUYERS.

In transmitting the following information concerning German export methods, Consul H. W. Harris, of Nuremberg, reports that the smallest manufacturers not only sell to the foreign buyer visiting that district, but have a keen appreciation of the value of the foreign market and a definite purpose to enter it:

There are in this consular district scores of small concerns, employing from 6 to 20 people, which are manufacturing chiefly for the foreign markets. A buyer of toys and fancy articles in Nuremberg and its immediate environs would be apt to visit, and many do visit, from 100 to 125 different factories, many of them small concerns with but few employees, but prepared to manufacture such class of merchandise as will be suited to the American buyer, and which may or may not be suited to the domestic trade. The books of this consulate show that in 1907, 222 different concerns were engaged in shipping to the United States. Allowing for commission houses, which ship in their own names, merchandise from a large number of small factories, whose names do not appear in the consulate's books, the total number of factories whose merchandise enters into the year's shipments runs far into the hundreds.

It is interesting to note that, while the volume of business from the district has steadily increased from year to year, the general character of this trade has remained much the same for many years, the firms themselves changing less than might be expected. Thus 44 of the concerns which appeared as shippers in 1867 appeared in the list of 1907. A page of the invoice book of the former year as to goods and firms, bears a striking resemblance to a page from the invoice book of the latter year. The total declared exports from the district in 1867 were $1,617,353 as against $7,211,373 in 1907. As Nuremberg, the chief city of this district, had a population of less than 75,000 in 1867 as against a population of more than 300,000 in 1907, other towns showing somewhat similar growth, the export trade for this district has simply fairly kept pace with the increase in population of the manufacturing centers.

HOW TRADE WITH THE UNITED STATES IS CONDUCTED.

The channels through which this important business is conducted are varied and interesting. Most of them are more or less in vogue in other parts of Europe. They are for the most part not haphazard in character, but are carefully worked out as the result of experience.

Whatever may be said of careless methods that have sometimes been used in selling American goods abroad, the men and the methods employed in buying goods abroad for the American market are unquestionably excellent.

First in importance are the commission houses, of which there are many in this district. Some are large and pretentious, with good buildings, extensive business connections, and abundant capital and credit; others are smaller and less important. These houses are in some cases little more than mere packers and forwarders of merchandise, which has been carefully selected by skilled American buyers who, year after year, come to this locality and visit the factories, examining samples, price lists, etc. But the part taken by such houses is important, if not essential. They are fully informed as to the factories themselves and as to the business of the district. A small manufacturer who would be unable to ship his products to the United States and wait until his money arrived, may be quite willing to sell to a commission house, which is prepared to pay him perhaps the same day his goods are delivered by wagon or perhaps by hand cart pushed by some member of the manufacturer's family. The small manufacturer is apt to become in large measure dependent upon the commission house, and the latter is in position to force prices down to a level, leaving little or no profit to the small manufacturer. The American buyer profits in this reduction of price and through the prompt delivery of his goods, care in packing (usually done by the commission house in its own warehouses), and in other ways. A buyer of large experience for a well-known American concern, stated to the writer recently that he started in as buyer with the belief that he could dispense with the commission house, but that he had abandoned this view as to this market.

MEETING THE WISHES OF THE AMERICAN BUYER.

The commission house may be taken as the typical method in the toy and fancy article trade, which is the chief branch in this district. Other merchandise is sold direct to buyers who come from the United States, or to American firms through correspondence, or through salesmen who make frequent trips to the United States, or through American agents in the United States, who act as sole representatives of firms located here.

Members of many firms located here make frequent trips to the United States and keep in close touch with its business conditions. The number of these that speak English fluently is large. The plan of establishing branch factories in the United States or taking a financial interest in factories therein has grown in favor in recent years, there being now several such cases from this district. The facts noted, and others which might be added, all point to a keen and widespread interest in export trade from this locality. They point also to an intelligent and systematic effort to meet foreign conditions as they exist, and to develop trade in accordance with these conditions.

SAXONY'S AMERICAN EXPORTS.

LARGE DECREASE IN THE TRADE IN MANUFACTURED ARTICLES THIS YEAR.

In furnishing the following statistics concerning the decreased trade of southwestern Saxony (Plauen and Markneukirchen districts) with the United States, Consul Carl Bailey Hu[illegible]r that the exports

of manufactured articles have suffered a reverse that is noticeable in all branches of industrial activity. He says:

The total value of merchandise exported from Plauen to the United States during the three months ended March 31, 1908, amounted to $773,973, which was $542,688 worth less than the value of the goods shipped during the corresponding period of 1907. This important decrease is the more striking when it is considered that during the first quarter of 1907 the value of exports was $485,774 less than during the first quarter of 1906. Thus far in 1908 the heaviest falling off has been in cotton laces and embroidered articles, the value exported in this line during the first quarter of 1908 being $525,435, as compared with $1,023,828 during the same months of the previous year, a difference of nearly half a million dollars in a specialty that has hitherto stood conspicuously at the front. There are complaints on all sides as to lessened production and there seems to be little prospect of an early resumption of the former brisk business.

The decrease in other exports to the United States will be seen in the following statement:

Articles.	First quarter of 1907.	First quarter of 1908.	Decrease.
Silk laces	$25,733	$13,662	$12,071
Linen embroideries	11,436	6,768	4,668
Embroidery looms	43,095	9,267	33,828
Cotton hosiery	29,000	16,444	12,556
Ladies' cloth	100,384	72,403	27,981

The only exports from Plauen showing increases were machine-made artificial silk lace and cambric embroideries.

Statistics at the consular agency at Markneukirchen reveal the fact that depressed business conditions also prevail in altogether dissimilar lines of goods from those produced in the territory adjacent to Plauen. Although it has been mentioned in a number of instances that the falling off in laces, embroideries, and light-weight cloths might be the result of change in fashions, the lessened shipment of the staple musical instruments of Markneukirchen would show that the depression is general in all branches of export from this part of the country. During the first three months of 1908 the value of the goods exported from Markneukirchen to the United States amounted to $139,653, as compared with $200,578 during the corresponding quarter of 1907, a decrease of $60,925. The sharpest decline was in harmonicas, followed by accordions and concertinas, violins, and violoncellos, bows, etc.

ANNABERG SALES DECLINE.

DROP IN SHIPMENT TO AMERICA OF DRESS TRIMMINGS AND TOYS.

Consul George Nicolas Ifft, of Annaberg, in the following report shows the effect on that German district of curtailed American orders for goods:

Declared exports from the Annaberg consular district to the United States for the first quarter of 1908 were $101,395, as compared with $205,719 for the same period last year—a decrease of more than 50 per cent. The decrease was pretty equally distributed throughout the entire list of exports, the principal items being dress trimmings

and beaded bags and belts, $142,381 for the first quarter of 1907, dropped to $64,795 for the same period this year; beaded fringes, from $14,371 to $6,485; buttons (fancy and crochet), from $18,619 to $5,415; paper novelties, from $14,479 to $6,904.

The decrease in Annaberg exports is due in part to the financial situation in the United States, but in still larger measure to the changing fashions, which have almost wiped out the demand for Annaberg dress trimmings. Some factories have closed down entirely and hundreds of looms in both factories and the homes are standing idle.

WILL CAUSE CHANGED INDUSTRIAL CONDITIONS.

Many of the mountain villages are taking steps to establish other industries, and everywhere the spring visits of the American buyers are anxiously awaited in the hope of a revival of the American business. There seems, however, little hope of recovery this year, if ever, as some of the Americans have already sent word that they are not coming this spring.

The item of toys is the only one on the list that held its own during the first quarter of this year, the declared value for the quarter being $4,392, as compared with $5,495 for the same period last year. Few of the exports of Erz Mountain toys, however, are invoiced at this consulate, and the reports from the "Before-Easter Messe" at Leipzig indicate that practically no American orders were placed with the manufacturers of this district. This means hard times in the toy makers' villages, as they have always depended largely on the American trade.

DEVELOPMENT OF EXPORT BUSINESS.

SEVERAL TRADE ASSOCIATIONS FORMED—JOINT TOUR OF THE LEVANT.

Consul-General Richard Guenther supplies the following information upon further movements of Germany to extend the export trade:

The various export associations in Germany have combined for establishing a Central Export Association in the city of Hamburg. They expect from this combination of forces under a single management much greater impetus and more beneficial results to the German export trade.

At a meeting recently held at the hall of the Chamber of Commerce in Frankfort for the purpose of organizing a German-French Economic Association about 80 prominent German manufacturing and commercial firms were represented by their delegates. The object of this association is to promote trade between Germany and France. A similar association has recently been formed in Paris. It might be well if associations of this sort were organized in the United States with the object of getting in closer touch with trade circles in Europe and other countries in order to promote the export trade of the United States.

The Association of Merchants of Berlin, after a carefully prepared plan, in March sent out a commission of ninety persons, which represent the principal commercial and manufacturing firms of Berlin. The objective point of the commission is the Levant, and the members will study business conditions and possible trade opportunities

in the countries of that vast region. On the way East the commission made stops at Vienna, Budapest, and Sofia, where they held communication with the commercial bodies of said cities. From there they proceeded to Constantinople, from which point their Levantine investigating tour begins.

FOREIGN TRADE GAINS.

INCREASE IN BOTH IMPORTS AND EXPORTS THIS YEAR.

A report from Consul William Bardel, at Bamberg, states that the statistical report on Germany's foreign trade for the first two months of this year shows an increasing development in import as well as in export, as compared with the same two months of last year. The consul summarizes:

Of the 19 numbers regulating the German tariff 11 numbers show an increase in the import, particularly in raw material, in the mineral and fossil branches, in mineral oils, chemical and pharmaceutical products, colors, base metal and merchandise made thereof (copper). Ore shows the heaviest import of all.

The principal increase in the export is shown in the lines of mineral and fossil raw materials, in products of agriculture and forestry, in base metals and merchandise made thereof (iron and iron goods). The tables for January and February, as published, follow:

Description.	Imports.		Exports.	
	1907.	1908.	1907.	1908.
Products of agriculture and natural produce; food products	*Tons.* 3,085,660	*Tons.* 3,082,960	*Tons.* 540,749	*Tons.* 605,441
Mineral and fossil raw materials; mineral oils	4,322,869	4,641,653	4,921,798	5,050,267
Chemical and pharmaceutical products; colors	186,434	203,450	307,604	325,146
Base metals and merchandise made thereof	123,333	133,625	555,108	590,385
Other merchandise taxed by weight	144,903	145,356	289,486	313,707
Total	7,863,199	8,207,044	6,614,745	6,884,946

FRANCE.

REVIEW OF THE COLONIAL TRADE.

SHARE OF FRANCE AND FOREIGN COUNTRIES THEREIN.

Consular Clerk Milton B. Kirk, of Paris, furnishes the following statistics, from an official report just published, showing the foreign trade of all French colonies and protectorates for 1906, with the exception of Algeria and Tunis:

The following statement shows the value of the imports and exports of the colonies and protectorates, and the percentages of France, French colonies, and foreign countries therein in 1906: Imports, $87,804,442, of which France supplied 44.2 per cent, French colonies, 3.3 per cent, and foreign countries, 52.5 per cent; exports, $81,123,363, of which France received 42.6 per cent, French colonies, 2.1 per cent, and foreign countries, 55.3 per cent. The imports were $6,587,900 less than those of 1905, but the exports were $6,845,873 in excess of those of 1905.

The following statement shows the imports and exports of the colonies from and to the several countries, together with the re-

exports of France and foreign merchandise to those countries in 1906:

Countries.	Imports from.	Exports to.	Reexports of French products.	Reexports of foreign products.
France:				
French merchandise	$38,867,542	$32,165,288	$247,611	$2,187,459
Foreign merchandise	1,578,088			
French colonies:				
Colonial merchandise	2,791,890	1,441,088	138,020	74,627
Foreign merchandise	42,318			
Foreign countries:				
United States	2,932,633	346,217	319	12,563
United Kingdom	7,233,892	4,504,352	481	16,021
British colonies	18,742,268	14,292,922	59,381	2,996,916
Germany	2,053,133	2,651,258	4,021	276
Netherlands	569,344	776,771		
Dutch colonies	588,185	1,735,822	64	96
Belgium	312,580	1,586,898		
China	4,830,433	1,890,546		2,246,337
Japan	186,530	1,556,210		
Siam	1,290,346	725,413		262,550
Philippines	2,099	2,769,808		
Abyssinia			317,963	1,329,761
All other countries	5,783,161	14,680,770	Not stated.	Not stated.
Total	87,804,442	81,123,363		

Taken as a whole, the French colonies and protectorates have shown great commercial improvement during the last eleven years, an increase of $77,464,578 on the total commerce over the year 1895, viz: $41,206,834 in the imports and $36,257,744 in the exports.

COLONIAL INDUSTRIAL PROGRESS.

PRINCIPAL PORTION OF THE COMMERCE IS WITH FRANCE.

Consul John C. Covert, of Lyon, furnishes the following additional information covering the commerce and industries of the French colonies:

The foreign commerce of the French colonies in 1906 was as follows: Imports, $87,795,700; exports, $81,117,900. Of the imports 47.5 per cent were received from France, and of the exports 42.6 per cent went to France. As compared with the trade of the colonies ten years ago (1897), the imports increased $36,465,500, and the exports $31,092,300.

Over one-half the population of the French colonies is native, and one-fourth other than French, principally Italian, but these soon become naturalized and call themselves French citizens. The colonists are becoming good customers of the mother country, and are heavy purchasers of ready-made clothing, hardware, pottery, glassware, boots and shoes, furniture, chemicals, jewelry, tobacco, cigars, wines and liquors, and other products of France. Everything is done by the French Government to facilitate the exchanges between France and her colonies. The customs duties are all at minimum rates or no more than is necessary to defray the expenses of the customs authorities.

RESOURCES AND DEVELOPMENT.

France receives annually from her colonies large quantities of phosphates, hemp, india rubber, live stock, fresh fish, rice, cork, iron

and copper ore, leather and hides, tanbark, hair for brushes, wax, wheat, corn, rye, tea, and cotton, several varieties of wood, and all kinds of fruits and vegetables. Early vegetables are received in France from the French colonies of Algeria and Tunis in February and March, and as soon as the supply from that source is exhausted a crop is ready in the Midi of France. The supply of cereals from the colonies is constantly increasing, and they are susceptible of almost unlimited expansion.

During the last two decades, France has expended $40,000,000 on railways in East Africa, and the brigand chiefs who ruled that vast territory now occupy civil and military positions, and are amenable to the authority of officials appointed by the home government.

The lines of railroads operated in West Africa in January, 1908, were: Dakar to St. Louis, 124 miles; Kayes, on the Senegal, to Kulikoro, on the Niger, 345 miles; Guinea Railroad, Konakry to Kumy, 226 miles; Ivory Coast Railroad, 70 miles; Dahomey Railroad, Kotonu to Agovagu, 166 miles.

The French are looking to the creation of a market in their colonies which will belong to them. The colonies are fast becoming an outlet for the overflow population of other nations, while they are constantly growing more thoroughly French. The official language of all of them is French. It is taught in the schools, and in Algeria and Tunis there are French universities presided over by some of the most learned educators of France.

The names of the different countries composing this immense colonial empire are as follows: In Asia: French India, Annam, Cambodia, Cochin China, Tonkin, and Laos. In Africa: Algeria, Tunis, Sahara, Senegal, Senegambia, and Niger, French Guinea, Ivory Coast, Dahomey, Kongo, Somali Coast and dependencies, Reunion and Comoro Islands, Mayotte, and Madagascar. In America: Guiana, Gaudeloupe, and dependencies, Martinique, and St. Pierre and Miquelon. In Oceania: New Caledonia and dependencies, and establishments in Oceania.

PIANO MARKET CONDITIONS.

OUTLOOK FOR THE INTRODUCTION OF AMERICAN INSTRUMENTS.

Consul-General Robert P. Skinner, of Marseille, furnishes the following information concerning the piano trade in France and the steps that must be taken for the introduction of American pianos into that country:

The most highly regarded and expensive piano offered for sale in France bears a well-known American name, principally because it has been the concert piano of preference of a number of celebrated artists, but its price prevents it from becoming a popular instrument, in spite of its recognized superiority.

The French piano of commerce must sell at retail at from $100 to $200. It is usually an upright piano, with a range of seven octaves, or a grand piano (piano à queue), with a range of seven and a quarter octaves. The old-fashioned rectangular piano is no longer manufactured in this country, and is seldom seen. The favorite woods for piano cases are poplar and walnut, which are waxed and polished,

instead of being highly varnished as in the United States. The cheapest woods are painted with a black enamel paint, and resemble the low-priced American standard pianos. Upright pianos sell at wholesale in this country at from $89 to $328, and at retail at from $116 to $347. Grand pianos sell wholesale at from $250 to $733, and retail at from $290 to $772. The retail dealer expects to make an average profit of $20 on upright instruments and $40 on grand pianos.

OUTLOOK FOR AMERICAN PIANOS.

The possibility of selling American pianos in this country would depend upon the ability of the American manufacturers to overcome the French duty of $11.58 on upright and $16.40 on grand pianos. It would also be necessary for American manufacturers to send a competent representative to this market to present their claims with vigor and ability. There are numerous French pianos on sale at low prices, and they are unlikely to be displaced by efforts to sell American pianos by correspondence.

The imports and exports of pianos into and from France during the last three years were as follows:

Description.	1905.	1906.	1907.
Imports:	*Number.*	*Number.*	*Number.*
Upright	357	429	508
Grand	130	164	229
Total	487	593	737
Exports:			
Upright	4,497	4,836	4,457
Grand	281	316	366
Total	4,778	5,152	4,823

Judging from the comparative insignificance of the importations of pianos into France, it seems certain that American pianos would have to be presented with particular ability in order to succeed. [The addresses of the principal French piano manufacturers of Paris and the best known dealers at Marseille, transmitted by the consul-general, are on file in the Bureau of Manufactures.]

UNITED KINGDOM.

LONDON IVORY SALES.

QUARTERLY TRANSACTIONS SHOW LOWER RANGE OF PRICES.

Consul-General Robert J. Wynne, in response to a request, makes the following report on the quarterly sale of ivory in London on April 30:

A total of 85½ tons of ivory was offered for sale, comprising 27 tons Zanzibar, Bombay, Mozambique, and Siam, 7¼ tons Abyssinian, 32¾ tons Egyptian, 7½ tons West Coast African, one-half ton Lisbon, 10¼ tons "land carriage;" in addition there were offered for sale one-fourth ton sea-horse teeth, one-half ton boars' tusks, three-fourths ton rhinoceros horns, and 7¼ tons waste ivory.

The feature of the sale was the preponderance of large and medium teeth from Bombay, Zanzibar, Egypt, etc., of which a good portion

were of fine qualities. For these teeth the greatest depression was shown in the heaviest declines. Owing to the unusually heavy quantities catalogued—much in excess of requirements—a depressed tone prevailed throughout the sales.

During the sale considerable quantities were withdrawn. In all 37¼ tons were bought at the following prices: Zanzibar, Bombay, Mozambique, and Siam, £40 to £72½ ($195.66 to $353) per hundredweight (112 pounds); Abyssinian, £42 to £71 ($204 to $346) per hundredweight; Egyptian, £35 to £70½ ($170 to $343) per hundredweight; West Coast African, £41 to £64½ ($200 to $314) per hundredweight; boars' tusks, 8d. (16 cents) per pound; sea-horse teeth, from 1s. to 1s. 9d. (24 cents to 42 cents) per pound; rhinoceros horns, 5s. 9d. to 15s. 6d. ($1.40 to $3.77) per pound.

EXPORTS FROM NOTTINGHAM.

LARGELY DECREASED PURCHASES BY AMERICAN IMPORTERS.

Consul Frank W. Mahin furnishes the following information concerning the exports for the Nottingham consular district (Nottingham, Derby, and Leicester) during the first quarter of 1908, as compared with the first quarter of 1907:

The declared value of the articles of large and regular shipment from Nottingham to the United States was as follows in the first quarters of 1907 and 1908:

Articles.	1907.	1908.	Articles.	1907.	1908.
Lace goods	$2,016,754	$1,336,802	Salted sheepskins	$27,209	$14,009
Cotton yarn	40,987	84,336	Silk and cotton drillings	16,361	14,918
Silk	48,061	19,493	All other articles	94,254	190,569
Hosiery and underwear	85,346	66,057			
Leather	23,828	8,187	Total	2,387,660	1,725,222
Machinery (mostly for lace making)	34,860	40,851			

The small or irregular exports entered under "All other articles," increased in 1908. For instance, linen piece goods to the value of $63,049 were declared at the Nottingham consulate in the past quarter, none being invoiced in the 1907 quarter.

The declared value of exports from the Derby consular agency during the first quarter of 1908 amounted to only $337,790, against $472,549 the first quarter of 1907. The declared value of Burton ale, however, increased from $94,722 in 1907 to $111,898 in 1908; but salted sheepskins fell from $325,122 to $172,645 during the same quarters. Exports of machinery, sod oil, and steel-rope wire increased in 1908, but all other items declined, the chief of these being paints, which fell from $30,492 to $18,676.

The declared exports at the Leicester agency declined from $85,086 in 1907 to $69,883 in 1908. The changes were small in the various articles, the largest being in elastic webs, the main item of export, which declined from $48,552 last year to $40,099 this year.

GENERAL TRADE CONDITIONS.

Trade has seriously declined with nearly all other countries, as well as with the United States. The situation is made worse by the

fact that last year's universally good trade led manufacturers to enlarge facilities and increase output, with every reason to believe that business would be as active in 1908. At the beginning of this year, though trade was at a low ebb, manufacturers generally believed the depression would gradually pass away and entirely disappear in two or three months. Every week and day they have looked for a change, but at the end of three months none has come and none is in sight. Few manufacturers are now optimistic, and some are hopeless of any early revival of business.

Lace machines generally are idle or only partly working. In some factories hands are put on short time; in others, discharged. If any machines are working full time and capacity it is to fill orders received many months ago.

Conditions in the hosiery trade are similar, but not so bad as in lace. There was not in hosiery last year the unusual activity manifest in the lace trade, and the present contrast is therefore less marked. The total value of hosiery exports this year, despite the decrease to the United States, is so far about equal to 1907. Some hosiery machinery is idle, but altogether no unusual feeling of disappointment or discouragement is evident in the hosiery trade. The uncertain and declining prices of wool and cotton are disturbing; but beyond rendering manufacturers cautious in yielding to the pressing offers from the spinners, who naturally wish to sell now, and inducing a limit of output to the lowest possible quantity while prices are falling, no material effect on the trade is apparent.

Prices of mosquito nets, which materially advanced last year, have decreased 15 per cent since January 1, 1908. Other lace products have not yet distinctly declined in price, but the general tendency is that way. Export trade in all other products is more or less depressed. Local trade, wholesale and retail, in all branches, is behind the corresponding period of last year. All industries expect substantial improvement when business in the United States is fully restored to its normal condition, but not till then.

BIRMINGHAM'S REDUCED TRADE.

DECLARED SHIPMENTS TO UNITED STATES GREATLY DECLINE.

Consul Albert Halstead in the following report shows the extent of the decreased exportation of British manufactures from Birmingham to the United States:

The value of the exports from the Birmingham district to the United States for the first three months of the present year was $610,995, a reduction of $167,700 from the similar quarter of the previous year, or a little over 21½ per cent. The value of the exports from the Birmingham consulate alone was $528,491, a reduction of $111,533 compared to the similar quarter of 1907, or a little over 21 per cent. The invoices in the same period fell off by about 15½ per cent.

The conditions that existed in the United States in the first quarter of the present year will, of course, account for the heavy reduction in the value of exports from this district, a reduction that from accounts that have reached me is lower, if anything, than that which has taken place in many other consular districts.

BELGIUM.

IMPORTS AND EXPORTS OF BICYCLES INTO THE KINGDOM FOR PAST YEAR.

Consul W. P. Atwell sends from Ghent the following statistics showing the foreign trade of Belgium in bicycles:

The total value of importations of bicycles into Belgium during the year 1907 increased by more than $44,000 over the year 1905, and $32,800 when compared with 1906. The increase for bicycle parts amounted to $172,600, when compared with 1905 and $234,000 over 1906.

The exportation of bicycles, on the other hand, remained approximately unchanged, while that for bicycle parts shows a decrease of $123,400 over 1905 and $96,200 when compared with the year 1906.

The greater part of importations into Belgium were furnished by Germany, the total value being $333,000, followed by England with $126,000, France with $80,000, Holland with $18,000, and the United States with only $16,000. The difference thus shown between Germany and other exporting countries is therefore enormous.

ITALY.

BRAZILIAN TRADE DEVELOPMENT.

COMMISSION FOR THE STUDY OF COMMERCIAL INTERCHANGE.

Consul James E. Dunning, of Milan, furnishes the following information concerning the organization in the Italian Ministry of Agriculture of a commission to study the development of better trade relations with Brazil:

This commission will study not only the development of exports and imports between both countries, but the whole question of emigration. It is said that Italy feels that colonization in Brazil might have the same effect as that produced by Italian settlers and their children in Argentina, which has 1,600,000 Italians in its population, and which has, through these, become one of the best foreign markets for Italian goods.

In relation to Italian emigration to Brazil, it appears that the records show a steady movement of Italians from that part of the Republic dominated by the port of Santos. For instance, in 1902 the arrivals at that port numbered 28,895 and the departures 21,687, while in 1907 the arrivals numbered only 13,376 against 22,293 departures.

The trade of Italy with Brazil, while in no way approaching that with Argentina, is fairly good. Imports from Brazil, of raw materials chiefly, are somewhat less than the exports thereto. In 1907 the imports into Italy from Brazil amounted to 17,552 tons, of 2,240 pounds each, of which coffee constituted 16,075 tons, the remaining products, in the order of their weight, being hides, cocoa, pepper, rubber, sugar, and ebony. The exports from Italy to Brazil in 1907 amounted to 23,797 tons, against 19,256 tons in 1905. The leading exports in 1907 were as follows, in tons of 2,240 pounds: Wine, 12,097; marble, 5,373; olive oil, 1,450; paper, 890; sulphur,

816; preserved tomatoes and fruit, 731; calcium carbide, 682; vermuth, 447; cheese, 420; spirits, 342; cotton textiles, 329; manna, medicines, cotton yarn, silk goods, books, rubber goods, fancy goods, etc.

A factor in the future trade connections between Italy and Brazil, already manifested in the creation of the large volume of commerce with Argentina, will be the influence of the Italian steamship companies, which are successfully maintaining a rapid and convenient service of subsidized steamers between Genoa and South American ports, and which are now preparing to enlarge it by the addition of a group of first-rate liners.

DEMAND FOR SCIENTIFIC INSTRUMENTS.

FIELD FOR AMERICAN STOCK—METHODS FOR EFFECTING SALES.

Consul Dunning also forwards the following report, made by Clerk Siersdorfer of the consulate, on the opportunity for the American manufacturer to increase the exports of scientific instruments to Italy:

A certain quantity of scientific instruments is manufactured in Italy. Those manufactured here are considered to be some of the best in the world of their kind, although there are some special kinds of instruments that Italian manufacturers are unable to conveniently turn out. This special stock is at present imported from Germany, France, Austria, and England in steadily increasing quantities. Some stock is imported from the United States. The following table shows Italian imports of scientific instruments in the past two years, in tons:

Countries.	1906.	1907.	Countries.	1906.	1907.
	Tons.	*Tons.*		*Tons.*	*Tons.*
United States	226	277	Switzerland	98	97
Germany	373	1,408	Belgium	47	43
France	216	257	Other countries	37	23
Austria	67	41			
England	163	205	Total	1,227	2,351

Imports have thus greatly advanced, and a steady increase in the future is also predicted. There seems to be a specially promising field for American stock of this kind. Large quantities of dentists' outfits could undoubtedly find ready sale on the Italian market, together with motors for running the dentists' machines.

It is not to be inferred that American scientific instruments are not already sold in Italy, but there is room for a great deal more American stock. The best way for the manufacturer to reach the special demand is to get in touch with representatives on the field whose names and addresses were given in the list of general representatives in Italy recently filed with the Bureau of Manufactures. An agent should be appointed and then sent catalogues, price lists, etc., from which he will be able to determine the articles that would sell in the Italian market.

Optical, calculation, precision, observation, chemical, philosophical, and surgical instruments pay the following duties on entering Italy:

(1) Manufactured of copper, bronze, brass, or steel, fitted with telescopes, microscopes, graduated rods or disks, terrestrial telescopes, monocular microscopes, binocles, and mounted and unmounted lenses pay $5.79 per 220 pounds;

(2) without optical parts or graduating rods or disks pay $5.79 per 220 pounds; (3) all scientific instruments in the construction of which iron predominates pay $5.79 per 220 pounds.

REDUCED AMERICAN SALES.

DECREASED EXPORTS FROM MILAN TO THE UNITED STATES.

Consul Dunning furthermore reports that the volume of the exports invoiced through his office to the United States for the first quarter of 1908 shows a decrease of $2,237,226 as compared with the exports for the same period in 1907. This decrease occurred nearly altogether in raw silk, the exports of which in the 1908 quarter amounted to only $2,381,466, against $4,460,340 during the 1907 quarter. The other exports showing decreases were cotton waste, cotton goods, gloves, conserves, silk spun waste, etc.

SWITZERLAND.

IMPORTS OF OFFICE APPLIANCES COME MAINLY FROM UNITED STATES.

In stating that most of the mechanical office appliances used in Switzerland are imported from the United States, Consul R. E. Mansfield, of Lucerne, reviews the trade as follows:

The only article of this class in general use is typewriting machines. These have been used for twelve or fifteen years, but it is only in the past few years that they have been recognized as a necessary article in the equipment of every office where the business involves any considerable correspondence or documentary writing. The demand is almost universally for machines of American manufacture, and most of the standard and many of the cheaper grades of American machines are now represented by agents in Switzerland.

American adding and counting machines have been introduced in Switzerland in the past few years. They have not yet come into general use, but a number of concerns have added these devices to their equipment with satisfactory and gratifying results. It is only a question of time when they will be considered, like typewriters, a necessary adjunct to every well-equipped office.

EUROPEAN IMITATIONS—IMPORT DUTIES.

The roll-top desk is another article of American manufacture that is quite generally used in Switzerland. Erasers, paper fasteners, mucilage cups, and other office supplies are also imported from America. The better class of letter files, card-filing systems, and like office appliances used in Switzerland come from the United States. There are numerous German imitations in this class of office appliances, but as a rule they are inferior to the American-made articles. Prices of almost every kind of office appliances are higher in Switzerland than in the United States, the cost of transportation and customs duties being added to the original cost of the imported articles.

In addition to office appliances, American cash registers are also in general use in Switzerland, and the demand for this article of utility is increasing. American-made sewing machines are imported to considerable extent, and are sold in the Swiss market at a comparatively low price. Swiss and German imitations of American sewing machines are on sale in practically all of the shops and agencies where

household articles of this class are sold. The European product, which is a good imitation of the American machine, is sold at a lower price than the imported article.

All kinds of mechanical appliances for offices, including desks and office furniture, imported into Switzerland pay a duty of $3.86 per 100 kilos (220 pounds). Cash registers pay a like duty. The tariff on sewing machines is $1.55 per 100 kilos (220 pounds) gross weight.

GREECE.

DECREASED PRODUCTION OF OLIVE OIL—EXPORTS OF CURRANT PASTE.

Consul-General George Horton, of Athens, supplies the following commercial information concerning Greece:

According to one of the most reliable commercial authorities in Greece, the production of olive oil for 1907 has been below the average in quantity and quality. The entire production amounts to 57,923,000 liters, which on a valuation of 1 franc per liter (19.3 cents per 1.0567 quarts) represents a total value of 57,923,000 francs. If to this is added the value of the edible olives, between 4,000,000 and 5,000,000 francs, the total value of the Greek olive crop for 1907 is about 63,000,000 francs.

The minister of finance announces that the exportation of currant paste for 1906 and 1907 amounted to 66,286,940 Venetian liters. Of this the greater quantity was exported to the United States, followed by Germany and Italy, in which latter country it is used in the distilleries.

NORWAY.

FOREIGN PURCHASES OF GRAIN, FLOUR, AND MEAL.

Consul-General Henry Bordewich, of Christiania, in reporting that Norway has always imported large quantities of breadstuffs for home consumption, furnishes the following statistics:

In 1907 the imports were 351,414 tons of ground and 86,237 tons of unground cereals. The imports in 1908 will show a large increase, owing to failure of the 1907 crops. The principal imports are rye barley. Russia has always been the granary from which these ...s have come; there was imported in the year 1906, 340,000 ... these varieties of grain, of which 271,500 came from Russia. ...meal there was imported 20,479 tons in the year 1906, of which ...ns came from Russia and 12,838 tons from Germany. Of ...meal ... imports were 618 tons, of which Germany furnished ...

...heat were 20,844 tons in 1906, of which Russia sup- ... imports of flour are increasing, the amount in ...12,051 tons, of which Germany supplied 14,229, ...0, and the United States 4,679 tons.

...f the breadstuffs which are set down as imports ... goods of Russian, Roumanian, and Hungarian ...ts of flour placed to the credit of Germany, Great ...r European countries are largely of American ... been, and will without doubt continue to be, the ...ll supply Norway with the larger portion of its ...ntina may in the future become a rival of the

United States in the markets for the sale of wheat, flour, and feed stuffs, as well as of packing-house products. Other countries exporting breadstuffs to Norway are Sweden, Denmark, the Netherlands, Belgium, and Brazil.

The cereal imports from the United States other than flour in the year 1906 were, in tons: Barley 271, corn 7,264, and oat groats 527. The value of the direct imports of flour from the United States in 1904 was $97,793, in 1905 $61,425, and in 1906 $209,487. The direct annual imports from America are somewhat on the increase, the trade being well handled.

ROUMANIA.

GOVERNMENT ORGANIZES NEW DEPARTMENT FOR TRADE AND INDUSTRY.

Consul-General Norman Hutchinson transmits from Bucharest the following text of a law creating a new Ministry of Industry and Commerce in Roumania:

Art. 1. There is created a Ministry of Industry and Commerce.

Art. 2. The service of industry, of patents of inventions and of their keeping, the protection of the working of women and minors in industrial establishments, the service of commerce with the application of the law of trades and the school of silk cultivation, the service of weights and measures, as well as the service of mines with the mineral waters and the geological institution, all of which services actually come under the Ministry of Agriculture, Industry, Commerce, and Domain, from April 1, old style [April 14, new style], shall pass to the service of the new Ministry of Industry and Commerce.

Art. 3. Until the passage of a law for the organization of the new Ministry of Industry and Commerce, the services which pass under this ministry shall continue to be carried out under their special laws.

Art. 4. The Ministry of Agriculture and Industry, of Commerce and of Domain, will have the name of Ministry of Agriculture and Domain.

BRITISH INDIA.

FOREIGN TRADE REVIEW.

STATISTICS OF IMPORTS AND EXPORTS FOR ELEVEN MONTHS.

Consul-General William H. Michael, of Calcutta, reports that the value of sea-borne merchandise imports into India and exports therefrom during eleven months ending February 29, 1908, was as follows:

Imports:		Exports:	
Private merchandise	$393,010,788	Private foreign merchandise reexported	$11,494,252
Government stores	19,897,790	Indian merchandise	525,510,420
		Government stores	393,634
Total	412,908,578	Total	537,398,306

This does not include imports and exports of private and government treasure. The total imports of treasure was $130,998,712 and the total exports of treasure amounted to $16,726,913.

The amount of import duty collected during the eleven months, including the tax on salt, was $22,266,338 and the amount of export duty collected was $2,721,502.

These figures are derived from the monthly official report of the government relating to the sea-borne trade and navigation of British India.

CALCUTTA'S DECREASED EXPORTS TO THE UNITED STATES.

The decrease in exports from Calcutta to the United States in 1907, compared with 1906, amounted to $3,049,640, which was due to the

American financial condition. Had the exports of the first quarter of 1907 kept up there would have been a large increase during that year instead of the large decrease reported. According to brokers and exporters, however, business with the United States is improving, and indications are that normal conditions will be reestablished during the present year. The exporters of skins felt the effects of the financial troubles in the United States more than any other class, for the reason that nearly all skins shipped from India went to the United States.

KARACHI'S PROGRESS.

STEADY ADVANCE IN COMMERCE OF THE NORTHERN INDIA PORT.

According to the recent report of the Karachi Chamber of Commerce for 1907, Consul-General Michael says that there has been an increase in the business of that growing port in the last twelve months despite drouth and the financial conditions affecting the trade of India. The consul-general presents the following summary:

The total value of the sea-borne trade for 1907 amounted to $126,978,085, an increase of nearly $26,666,666 over the figures for 1906. The exports of wheat during the year from Karachi amounted to 977,614 tons, against 5,290 tons shipped from Calcutta and 27,078 tons from Bombay. Thus Karachi shipped 945,246 tons more than the two large shipping points combined, and more than all other Indian shipping ports put together. The exports of cotton from Karachi show an increase in value of $4,959,576. This large increase of cotton was due to the very large crops in Sind and in some of the Punjab districts. The report says that there was very little injury done to the indigenous cotton crops by the boll worm, but that the Egyptian plant again suffered severely, the quantity and quality both being reduced. The loss from this cause, however, was more than made by higher prices received. The shortage of Egyptian and American high-grade cotton helped to raise the prices on Indian cotton.

The exports of rape seed increased in value over $2,366,666. This large increase was made possible by the large production in the Punjab and the failure of the rape-seed crop in Europe The value of the shipments of wool amounted to $4,836,604, which exceeds any previous figure, and was an increase over 1906 of $512,646. In hide and skin commodities there was a big falling off, amounting in value to $1,657,465, which was due to the short supplies in the country, connected with the slack demand in Europe and America, especially in the latter country, where there were large stocks on hand.

INCREASE IN IMPORTS—GRAIN-HANDLING MACHINERY.

The report says there has been a decided advance in imports over those of 1906, amounting to $3,450,000. The total value of exports was $53,577,689, which is in excess of any year in the history of Karachi. The imports of piece goods increased about $1,150,000 over 1906. Imports of sugar decreased about $2,074,061, due, it is claimed, to overstocking the year previous in which imports increased in value

by $3,781,336. The increase in the imports of kerosene oil amounted to about $283,333. The imports of coal nearly doubled as regards foreign coal, viz, 21,231 tons compared with 11,020 tons in 1906. The imports of Indian coal, mainly from Calcutta, amounted to 384,419 tons, against 352,067 tons last year.

The report shows that Karachi is destined to become one of the most important shipping points in India, especially in wheat. Attention is called to the fact that steps are being taken to establish large grain elevators in Karachi, and elevators at many points on the lines of railroads running through the great wheat-producing country of northwest India. I suggested to the builders of elevators and the manufacturers of elevator machinery in the United States more than a year ago that the time was not far off when this would be done, but so far as I know the suggestion was not acted upon. My report on the subject was quoted in papers throughout India, and, I have no doubt, had its effect on those who are promoting the elevator scheme then suggested. It may not be too late for an active agent to accomplish results at Karachi and in the wheat country. The introduction of American elevators would be followed by American fanning mills, and possibly thrashing machines.

The rise in the cost of harvesting wheat and other grains in the Punjab has suggested the need of a cheap harvester in that province. The farms in the Punjab canal colonies have done so well that they are declaring that a cheap, handy, and simple manual delivery reaper is required. They have brought the matter to the attention of the agricultural department. The official opinion seems to be that there is little doubt that the more progressive farmers of these colonies will readily adopt this sort of reaper and lead the way to its general use in the wheat-growing districts of Northern India.

SALES OF AMERICAN GOODS.

SUCCESSFUL EFFORTS OF PERSONAL REPRESENTATIVES ON THE SPOT.

The following information concerning recent sales of American manufactures in India is also furnished by Consul-General Michael:

According to trustworthy information there are a good many American windmills of the cheaper class in use on the Malabar coast of India, 200 miles south of Bombay. There are probably several hundred of these engines in use along the west coast and more are being installed. An agent of an Illinois manufacturer sold a carload lot last January of a better class of windmills to a Bombay firm, which will probably be erected along the west coast, where there is a very constant breeze the year round. The carload lot contained 40 mills, and will be shipped direct from New York. It would appear that there is really a good field for the American windmill on the Malabar coast, the demand for which is being met by two Bombay firms.

The attention of manufacturers is called to the fact that the introduction of American windmills and the other products noted into India is due to the intelligent effort of competent agents "on the spot" and not to the effect of catalogues. After one windmill or any other piece of machinery is actually introduced and in successful operation, catalogues and trade literature are all well enough, in fact

desirable, but machinery of any sort can not be introduced in a country like India without personal endeavor. An active, capable agent on the spot at the right time is needed.

INKS AND MUCILAGE—PACKING GOODS FOR INDIA.

Within the last year an American commercial traveler, who devotes his whole time to India and near-by territory, has succeeded in placing on the Indian market considerable quantities of American manufactured inks, blue, black, purple, and red, and a line of American-made mucilage. The articles are making their way on their own merits. The inks and mucilage are put up in attractive bottles, well packed, and reach the trade promptly and in satisfactory condition. American inks flow freely, do not corrode the pen, are good until the last drop is used, and they are also more durable than certain other inks used in India. In consequence there is a growing demand for the American goods. The introduction of these goods never would have happened but for personal effort of an American agent of push and ability.

To show what may be done in India by a capable traveling salesman, who has been in the country long enough to know it, and to be familiar with the vernacular, one such traveler sold last year $40,000 worth of a tonic manufactured in the United States, and the same amount during the previous year.

An American salesman, after citing many cases of looting, states that the thieving on vessels and at ports from the time goods leave the United States until they reach the business houses of India has become unbearable, and when asked for a suggested remedy replied that it might be found in proper packing. All packages for India should be ironbound, which would make it so difficult and dangerous to meddle with that the average ship and warehouse thieves would give up their vocation. Besides the seal would fix responsibility, and the responsible hands through which the box or package might pass would be more particular to whom access to the room in which packages are stored is given. It is thought that American shippers need only have their attention called to this matter to insure the proper packing.

STRAITS SETTLEMENTS.

ANXIETY CAUSED BY DEPRESSED BUSINESS CONDITIONS IN PENANG.

Vice and Deputy Consul-General George E. Chamberlin, of Singapore, in reviewing the conditions which prevailed in Penang during the past year, writes that, according to the annual report of the chamber of commerce, 1906 was the most anxious year ever experienced by the merchants at that port. He says:

The year 1907 opened with all the merchants carrying large stocks of imports with very small demand and very little hope of early clearances; money was not plentiful, and the stagnant state of the market in many of the staple articles of export gave little promise of any improvement. Prices of Acheen pepper, which were already exceptionally low, experienced a further drop; the demand from Europe practically ceased and, in consequence, those who were holding stocks were forced to hold on and wait for an improvement which

did not come. Tapioca was in much the same state; and then came the monetary crisis in the United States, with a resultant decrease in the demand for tin, a drop in tin prices, the "bullish" transactions of certain Penang merchants, whose losses amounted to about $1,000,000. The withdrawal of such a large sum of money from the amount available for the ordinary trade of the port, when money was already scarce, could have nothing but a disastrous effect on business. In addition, a further depressing effect was caused by some merchants trading with China over their contracts.

The one bright spot in all the darkness was the fact that, in spite of all these heavy losses, the merchants were able to meet their losses without any serious failure. The outlook for the current year is brighter, owing to the marked recovery in the price of tin, which is by far the most important article of export from this port.

JAPAN.

FOREIGN TRADE REVIEW.

DECREASE IN EXPORTS AND INCREASE IN IMPORTS.

Consul Hunter Sharp, of Kobe, transmits an article from a local newspaper giving details of the foreign trade of Japan for the first two months of 1906, 1907, and 1908, from which the following statement has been compiled, the yen values being reduced to American values in the Bureau of Manufactures:

The total foreign trade of the Empire for the first two months of the years given was as follows:

Year.	Exports.	Imports.	Total trade.
1906	$25,730,115	$33,151,428	$58,881,547
1907	30,898,553	39,166,163	70,064,716
1908	25,148,737	47,621,026	72,769,763

Less silk and tea, less copper, less Portland cement and timber, less sugar and confectioneries, less tobacco, less cotton yarns and cordage, less metals, less manufactured metals, and less machinery have been sent out; but there is not much change to note in the other groups of exports. Grains and seeds, ores and minerals, paper and paper manufactures, show a slight increase; marine products have been maintained at about last year's level and in advance of that of 1906; drugs and medicines, beverages and comestibles, and alcoholic liquors have increased; shipments of skins, hair, horns, etc., have increased as compared with 1907, though they are somewhat below the shipments in 1906. The most notable decreases in exports were in raw silk, cotton yarns and cordage, and metals, principally copper, viz:

Articles.	1906.	1907.	1908.
Raw silk	$7,573,377	$7,829,493	$6,105,308
Cotton yarns and cordage	10,453,264	11,573,077	8,460,731
Metals	1,292,016	2,806,982	1,251,308

Doubtless the falling off in the demand for tobacco, sugar, and confectionery is due to the increased duties.

IMPORTS.

Turning to imports, we find what is undoubtedly the greatest increase in sugar, a feature which is essentially exceptional, as the bulk was brought in hurriedly and without regard to the immediate requirements of the market,

in order to evade the higher duties recently enforced. The imports of sugar and other leading articles during the first two months of the three years were as follows:

Articles.	1906.	1907.	1908.
Sugar	$1,028,554	$1,357,770	$4,650,194
Machinery	1,469,184	1,509,059	3,423,565
Oils, fats, etc	1,476,247	1,291,438	2,087,736
Dyes, pigments, and paints	664,850	538,956	1,158,225
Miscellaneous goods	3,134,642	2,027,562	4,167,854
Cotton yarns, thread, cordage, etc	12,141,600	15,172,543	14,640,453
Cotton tissues	1,451,512	967,365	1,345,350
Woolen tissues	1,481,465	1,017,676	522,525

Scientific instruments appear to be in increased demand. During January and February, 1908, the importation of these instruments represented a value of something over $375,000, as compared with less than $250,000 in the corresponding period of last year and rather more than $250,000 during the first two months of 1906. Earthenware goods, grains, and seeds, alcoholic beverages, skins, drugs, and silk tissues also show an increase. Clothing and accessories, and paper and paper manufactures remain about stationary.

PORT OF YOKKAICHI.

GROWING IMPORTANCE OF SHIPMENTS TO THE UNITED STATES.

The following information concerning a subport of the Kobe district is furnished by Vice-Consul Walter Gassett, of the latter Japanese city:

Yokkaichi is situated at the head of the Bay of Ise, about 140 miles northeast from Kobe and 20 miles from the city of Nagoya. It has a considerable trade, the total imports and exports for 1907 amounting to $6,716,542, of which $1,802,427 were exports.

In Nagoya is situated the Mie Cotton Mill, with a paid-up capital of about $2,000,000, and among the imports of Yokkaichi last year was raw cotton, ginned, $1,295,970, and among the exports grey shirting and sheeting, $889,810, and cotton yarn, $189,169.

The surrounding districts of Mie, Aichi, Shiga, and Gifu produce considerable tea, the exports of which amounted to $147,605 in 1907. These tea exports have heretofore been shipped to Yokohama and Kobe by local steamers, to be refired and then reshipped. Tea traders in Yokkaichi are taking steps for the formation of tea-firing factories with a view to further developing the shipments of tea from that port.

Last January one of the Dodwell line of steamers tried the experiment of calling at Yokkaichi to ship direct from thence to the United States, and on account of the small amount of freight now offering at Kobe their example is to be followed by the Pacific Mail, Canadian Pacific, and Nippon Yusen Kaisha steamers for Seattle, which lines will send steamers there from time to time. Notwithstanding the number of steamers calling at this port, there is to be no competition in rates, as an agreement has been made between the companies concerned to charge uniform rates for freight and passage.

MAY DIVERT SHIPMENTS FROM KOBE.

Some apprehension seems to be felt that the progress of Yokkaichi may seriously affect the trade of Kobe with the United States. Goods ipped from Kobe to the United States are in large part manu-

factured in and about Nagoya and consist of porcelain, lacquer ware, fans, toys, and Japanese umbrellas. By the opening of the services from Yokkaichi shippers of goods made in and about Nagoya will be able to save two days in shipment, and also the freight to Kobe and lighter charges. It may be pointed out, however, that lighter charges will have to be paid whether goods are shipped at Kobe or Yokkaichi.

The port Yokkaichi is situated 29 miles from Irako Strait, and faces the southeast. There is no protection whatever against wind. The water is very shallow; in fact, it is becoming shallower every year, and even now vessels drawing 25 feet of water must lie at a distance of from a mile and a half to two miles from the shore. Evidently there is not likely to be much saving in lighterage charges under these conditions. During winter cargo lading can be carried on without much difficulty, but the port is subject to treacherous swells in the summer, especially during June, July, August, and September, when south or southeast winds are prevalent. Unfortunately these months form the season for the shipment of tea and also of toys and curios for the American Christmas trade. As a rule no cargo work can be carried on at Yokkaichi in the afternoon and nights of days when these winds prevail, the only available time being a few hours in the morning. Moreover, the port is also disturbed with a swell when the west wind blows. With all these inconveniences to be taken into consideration, the saving in freight to Kobe is likely to be more than made up by delays at Yokkaichi.

CHINA.

TRADE ROUTES TO TSINGTAU.

HOW GOODS ARE RECEIVED AND SHIPPED TO THE INTERIOR.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information relative to the trade routes to and from that Chinese port:

The port of Tsingtau is situated in the German Colony of Kiaochow, 298 miles north of Shanghai; 7,000 miles from San Francisco; 13,984 miles from New York, via Suez and Liverpool; and 1,738 miles from Manila. The harbor entrance is 300 meters (1 meter=1.09 yards) wide and 10½ meters deep, with a total length of pier construction of 3,000 meters. Harbor accommodation can be found for thirty ships, and there is also good anchoring ground in the roadstead.

The railway line running into the interior of Shantung Province connects directly with the wharves, and transshipments can be made from ship to car direct.

The principal exports are straw braid, bean and peanut oil, bean-cake (fertilizer), felt caps, goatskins, and fresh vegetables and fruits. The principal imports are cotton and woolen goods, cotton yarn, kerosene, old iron, brass buttons, aniline dyes, window glass, matches, needles, sugar, and opium.

Regular steamers of the Hamburg-American Line ply between Shanghai and Tsingtau twice weekly, and in addition the through steamers of this line running between Shanghai and Tientsin stop at Tsingtau in each direction every five days. This line has also a regular service between Tsingtau and Japan, and between Tsingtau and Vladivostok. The Indo-China Steam Navigation Company has a

regular line of steamers between Shanghai and Tsingtau, Tsingtau and Chefoo, Tsingtau and Kobe, Tsingtau and New York via Suez, and Tsingtau and London and Antwerp.

COMMUNICATION WITH THE INTERIOR.

Communication with the interior is kept up by the Shantung Railway, which runs for a distance of 256 miles to Tsinanfu, the capital of the province, and passes through the trade marts of Weihsien and Chowtsun. Communication with other parts of the province (Shantung) are kept up from Tsingtau, and from the stations of the railway by burden-carrying coolies, wheelbarrows, pack mules and donkeys, Peking carts, mule litters, and occasionally by camel trains.

Tsingtau is supplied almost entirely through the port of Shanghai, but is gradually becoming the emporium for goods destined for the interior of Shantung. Most of these importations for the hinterland are purchased by the interior importers directly from the Shanghai merchants, and are merely transshipped at Tsingtau from steamer to railway, passing through the customs at this port and appearing as Tsingtau imports, when they are really only landed on the wharves and never enter the town. The direct shipments to Tsingtau are small and confined principally to imports from Germany, though large quantities of kerosene are brought here in tank ships, stored in the local tanks and forwarded to the interior in tank cars. Large quantities of bulk oil are supplemented by oil in cases.

PACKING INFORMATION.

Goods intended for Tsingtau usually come in cases booked through to this port, but goods intended for the interior are more often sorted and repacked in Shanghai. Cases intended for this port should be strong, so as to withstand the following transfers: From train to wharf and wharf to ship at San Francisco or New York; from ship to lighter at Woosung (the anchorage for large ships near Shanghai); from lighter to wharf and from wharf to warehouse at Shanghai; from warehouse to wharf on leaving Shanghai; from wharf to Tsingtau steamer (occasionally another lighter being necessary); from steamer to wharf at Tsingtau and from the wharf at this city to the warehouse by coolies, by wheelbarrow, or by cart.

Packages are liable to be left standing in the open at Shanghai and other places in transit and should be able to withstand dampness and rain. Packages of goods from Europe are almost always in tin-lined cases, securely soldered, and while this method of packing is somewhat more expensive, it has proved to be more satisfactory, and importers are willing to pay the extra amount necessary.

Packages intended for the interior should, if in unbroken condition, be of a size convenient for transportation by coolies, mule, or other conveyance. Packages contained in outside cases, where it is intended that the case shall be opened and the packages forwarded separately, should have each parcel securely wrapped in tissue paper, again in oiled paper, and finally in oiled cloth, securely tied together with tape, so that the goods will be easily accessible for examination, can be rewrapped quickly for transportation, and will not become wet on exposure to rain or dampness. Such packages must often be
'nsported for hundreds of miles on open wheelbarrows or carts,
while they are sometimes covered with cloth or canvas, they are
often left uncovered.

GINSENG IN NEWCHWANG.

THE TRADE CONTROLLED BY DEALERS IN HONGKONG AND SHANGHAI.

In reply to western ginseng growers, Consul-General Thomas E. Heenan, of Newchwang, furnishes the following information concerning the manner in which the American product reaches that Chinese port:

It is impossible to deal direct with the Newchwang ginseng merchants. This can be attributed to several reasons. Whatever American ginseng root has been imported into this port during the past has gone through a clarifying process at Hongkong before shipment. The local Chinese dealer in purchasing the American root at Shanghai and Hongkong, prefers that method to any other, as the entire transaction is between native firms, who fully understand the particular wants of the different communities, which would not, of course, be the case were foreigners interested in such transactions.

The clarifying at Hongkong is practically controlled by a trust, which regulates the market value of the clarified article, according to the supply and demand. On several occasions attempts were made to do the clarifying at Shanghai, but owing to the fact that the process is more or less secret and under trust control, in neither instance did the project result successfully.

During last year, for some unaccountable reason, no American ginseng appeared in the Newchwang customs import returns, and it is evident that whatever demand occurred was supplied by the root of Manchurian growth. American ginseng root was never used to any great extent by natives in Manchuria; the same can also be said of them in regard to the root of their own growing, which is exported to southern ports, where a large demand continually exists. The amount exported to the South during 1907 from Newchwang was more than $160,000, and consisted of native and wild, beard and refuse; the export of native growth being more than $120,000.

MOROCCO.

GOATSKIN EXPORTS DECLINE TO AMERICA, BUT INCREASE TO FRANCE.

Consul-General Hoffman Philip, writing from Tangier under date of March 29, calls attention to a marked falling off in the exportation of goatskins from Morocco to the United States during the past six months. He says:

The demand for this article, which constitutes the most important item of the present trade relations of the United States with Morocco, has shown a decided and healthy increase during two years past. The supply in this country now appears to be sufficiently plentiful to meet a much increased demand, but practically no shipments have been made from Tangier to the United States for three months.

The result of inquiries into the cause of this depression indicates that it is owing to the lack of demand in the United States rather than to the effects of certain present internal conditions. It is stated that the shipments of goatskins to France have largely increased of late, but trustworthy statistical information in corroboration of this fact has not been obtainable.

AUSTRALIA.

COMMERCIAL ADVANCEMENT.

LARGE INCREASE IN THE IMPORTS AND EXPORTS OF THE COMMONWEALTH.

In transmitting the following preliminary figures of the department of trade and customs of Australia for 1907, Consul-General John P. Bray, of Melbourne, reports that they are subject to slight alteration on revision:

The total trade of Australia in 1907 reached the record amount of $607,249,710. The imports were $252,465,119; exports, $354,784,591. Compared with the previous year the imports show an increase of $34,788,978, and the exports of $15,405,766.

The increase in imports has been spread over nearly all the leading departments of business. Apparel and dry goods show an increase of $8,274,437 over 1906. Metal goods have increased considerably, the total under the six headings of galvanized iron, bars, rod, etc., pig iron, etc., tin plates, metal manufactures, and tools of trade, being $36,088,661, against $28,615,560, an increase of $7,473,101. Machinery imports for 1907 were $15,398,078, against $11,225,380. Of the exports wool shows the very large increase of $30,396,456 over 1906, and larger exports of coal, horses, copper, fruits, lead, frozen meats, silver, hides and sheepskins, tallow, and ores have been made, while gold decreased by $29,052,643, butter by $1,749,662, and lumber by $1,044,395.

The following statement shows the imports and exports, by articles, during the year:

Articles.	Value.
IMPORTS.	
Agricultural machinery	$1,992,837
Ale and beer	2,007,365
Apparel and textiles	61,233,014
Boots and shoes	1,753,817
Brush ware	810,063
Clocks and watches	1,081,871
Cocoa and chocolate	1,441,165
Confectionery	686,254
Cordage and twine	2,955,619
Drugs and chemicals	4,665,499
Earthenware, china, etc	1,647,223
Fish, preserved, etc	1,975,613
Fruits, dried (currants and raisins)	413,910
Furniture	1,432,887
Glass and glassware	1,976,495
Gold	7,128,235
Grain (rice)	1,305,230
Hats and caps	2,680,887
India rubber goods	1,992,837
Iron and steel:	
Bar, rod, etc	5,211,092
Plate and sheet (galvanized)	6,587,824
Pig and scrap	1,125,805
Jewelry	1,845,649
Jute goods	6,684,950
Leather	1,771,283
Lumber	7,817,010
Machinery, not agricultural	13,504,341
Manures	1,893,800
Metal manufactures	19,611,157
Oil, kerosene	2,430,679
Paints and colors	2,167,719
Paper:	
Printing	2,475,837
Other	3,002,217
Spirits:	
Brandy	720,559
Gin and schnapps	536,196
Whisky	2,821,504
[illegible]gar	378,234
[illegible]	5,612,641
[illegible]lates	1,210,683

Articles.	Value.
IMPORTS—continued.	
Tobacco:	
Manufactured	$810,024
Unmanufactured	2,074,856
Cigars	539,374
Cigarettes	239,012
Tools of trade	2,341,200
Wine	579,682
All other articles	59,289,480
Total imports	252,465,119
EXPORTS.	
Animals, horses	1,603,828
Butter	14,066,779
Coal	6,336,181
Copper, ingots and matte	16,824,590
Flour	5,308,482
Fruits:	
Apples, green	977,100
Raisins, dried	334,552
Gold	53,030,382
Grain, wheat	23,367,584
Lead, pig and matte	7,552,622
Leather	2,597,289
Lumber	3,880,405
Meats, frozen:	
Beef	2,801,709
Mutton and lamb	6,703,614
Rabbits and hares	2,300,959
Preserved	736,827
Silver, bar	6,288,044
Skins and hides:	
Hides	1,020,480
Rabbit and hare	2,032,785
Sheep	8,995,399
All other	1,091,877
Tallow	5,047,509
Tin ingots	5,462,502
Wine	615,340
Wool	140,602,006
Ores, exclusive of gold ores	7,321,713
All other articles	27,283,859
Total exports	354,784,591

TRADE OF VICTORIA.

The oversea trade (beyond the Commonwealth) of the State of Victoria, for the year 1907, shows an increase of $10,927,975 in imports and a decrease of $4,841,282 in exports, the latter being due entirely to lesser shipments of gold. The following statement shows the oversea trade during the past two years:

Class.	Imports.		Exports.	
	1906.	1907.	1906.	1907.
Merchandise	$69,451,038	$80,630,143	$71,124,778	$76,108,770
Gold and specie	2,841,612	2,590,482	17,007,634	7,182,360
Total	72,292,650	83,220,625	88,132,412	83,291,130

Imports of merchandise show a large increase over 1906, which year showed an increase of nearly $10,000,000 over 1905. Compared with 1905, the import trade of 1907 was 33 per cent greater. This movement has been partly due to the greater purchasing power of the community and partly to the higher cost of many articles in England and elsewhere. Of the increase, dry goods, etc., account for $1,286,035, manufactures of metals for $1,087,140, and larger business is also shown in galvanized iron and other metal goods, lumber, kerosene oil, and many miscellaneous commodities. While the exports of gold decreased largely, those of merchandise increased by $4,983,992, on account of the larger shipments of wool, frozen meat, sheepskins and raisins.

IMPORTS AND EXPORTS BY ARTICLES.

The following statements show the principal oversea imports and exports of the State of Victoria during the year 1907:

Imports.	Value and quantities.	Exports.	Quantities.
Agricultural machinery.....dollars..	718,606	Biscuits .....pounds..	1,183,163
Apparel, dry goods, etc.....do....	22,077,257	Butter.....do....	34,707,358
Lumber.....do....	3,060,484	Confectionery.....do....	220,274
Machinery.....do....	3,444,260	Flour.....centals..	1,337,169
Metal manufactures.....do....	5,371,725	Fruit:	
Beer.....galls..	616,359	Fresh.....do....	74,408
Candles.....pounds..	326,098	Dried.....pounds..	3,490,645
Cement.....do....	220,482	Hay and chaff.....cwt..	84,645
Cream of tartar.....do....	1,581,984	Jams and jellies.....pounds..	718,938
Currants.....do....	1,887,166	Meats, frozen:	
Hops.....do....	350,895	Beef.....do....	1,202,439
Iron and steel:		Mutton.....do....	33,546,355
Bars, girders, etc.....cwt..	743,875	Poultry.....pairs..	21,600
Pig.....do....	407,563	Rabbits.....do....	3,251,331
Galvanized.....do....	411,841	Canned.....pounds..	596,715
Meats, canned.....pounds..	102,165	Bacon and hams.....do....	35,022
Oil:		Oats.....centals..	173,496
Kerosene.....galls..	7,185,868	Potatoes.....cwt..	57,433
Castor.....do....	63,351	Skins:	
Spirits:		Sheep.....number..	4,052,664
Brandy.....do....	79,383	Rabbit.....pounds..	3,418,315
Whisky.....do....	476,981	Tallow.....cwt..	137,060
Tea.....pounds..	14,957,354	Wheat.....centals..	6,398,162
Tin plates.....boxes..	95,833	Wine.....galls..	574,761
Tobacco:		Wool.....pounds..	164,248,150
Manufactured.....pounds..	338,795		
Unmanufactured.....do....	5,799,107		

BRITISH TRADE CONFERENCE.

CONGRESS OF CHAMBERS OF COMMERCE TO BE HELD IN QUEENSLAND.

Consular Agent Asbury Caldwell, of Brisbane, in stating that it has been decided that a Congress of the Chambers of Commerce of

the British Empire will meet in Australia during the year 1909, writes:

Arrangements are being made to bring from 200 to 250 delegates from the chambers in all parts of the British dominions to Queensland during the session of that Congress. The local Chamber of Commerce is making extensive preparations to utilize this opportunity for the extension of Queensland trade. It should also be a good opportunity for the display of American manufactures by all who are seeking British colonial trade.

BORNEO.

AREA, POPULATION, TRADE, AGRICULTURE, AND INDUSTRIES OF BRUNEI.

Consul Lester Maynard, of Sandakan, furnishes a copy of the report of the British resident on the State of Brunei (a sultanate under British protection in the island of Borneo) for the year 1906, from which the following extracts are given:

The State of Brunei comprises an estimated area of about 3,000 square miles, with a coast line of about 100 miles, and lies between Lubok Pulai, the eastern boundary of the Baram district (Sarawak), and Tanjong Puan, at the mouth of the River Trusan. The Limbang district lies within these limits, but no longer forms part of the State, being administered as part of Sarawak. The principal remaining districts of the State are Belait, Tutong, Brunei, Pandaruan, Tamburong, and Laboh. Brunei, the capital, with an estimated population of 10,000 Malays, is distant 42 miles from Labuan. Communication between Labuan and the town of Brunei is maintained by launch service and by sailing schooners owned by Chinese traders.

A proclamation was issued during the year demonetizing the British and Mexican dollars and the nickel coinage of North Borneo, with which the country is flooded, and making Straits Settlements currency the only legal tender.

IMPORTS AND EXPORTS.

At the beginning of the year the trade of each district of the State was in the hands of separate rings of monopolists. In some cases the sole monopoly of trading in certain articles had been granted, and in other cases the right of charging duty on import or export had been sold outright, no limit being fixed for the rates to be charged. The only article not thus exploited was rice, the staple food of the people. The monopolies affecting the import trade of the capital were cleared off, by payment of compensation to the holders, as soon as possible, and customs regulations were then introduced, substituting a fixed and moderate scale of import duties for the restrictions hitherto in force. No export monopolies were redeemed until the last two months of the year. It is therefore impossible to give any reliable trade figures for the whole State during the year under review, no information being available as to the value of goods imported or exported under monopolies.

The total declared value of dutiable goods imported, chiefly into Brunei town, under the customs regulations was $34,092 United States currency. Large cargoes of rice are brought in by every schooner, although the soil of the country is capable, were it only cultivated, of supplying all the needs of its inhabitants in this respect.

Cotton piece goods, chiefly of German manufacture, and silk from China were imported into Brunei town during six months to a declared value of $15,335. The imports of cocoanut oil into Brunei town for six months was $2,094. The imports of sugar amounted to $5,376.

The monopolies affecting the import of spices were cleared off late in the year and a very low rate of import duty instituted. Spices vary in value and the importation of mixed consignments makes it impossible to assess the value. That the trade is considerable is proved by the comparatively high prices paid for the monopolies of import in the past. The import of opium and spirits was let out as a farm. The value of opium imported was $3,629. The present import of spirit is almost negligible.

There is a growing volume of export trade, comprising rotans, dammar, getah, and jungle produce of all kinds; but the fact that it was entirely in the hands of monopolists and that the exports were from outlying districts, where the Government had no trained staff, makes it impossible to offer any reliable figures regarding the trade during 1906. Coal to the amount of 14,533 tons was exported from the Rajah of Sarawak's coal mines at Brooketon (Muara) and Buang Tawer. The Island Trading Syndicate exported 3,469,884 pounds of cutch during the year under review.

AGRICULTURE AND OTHER INDUSTRIES.

Very little cultivation has been attempted during late years, the natives of the country having contented themselves with growing occasional crops of paddy. There are, however, many traces of earlier cultivation in the form of abandoned fruit plantations, and a number of these have been cleared and reoccupied during 1906. The soil is generally fertile, especially in the Tutong district, and it is to be hoped that as soon as road communications can be established the people, who at present earn a casual livelihood by the collection of jungle produce, will realize the natural advantages of their country and recommence permanent cultivation of the soil. A large area of land was selected and demarcated toward the close of the year for a rubber plantation.

The main industries of the native population are the collection of jungle produce in the outlying districts, and fishing and the collection of mangrove bark for cutch manufacture. A few Malays are also employed in the Brooketon coal mines and at Buang Tawer.

A factory for the manufacture of cutch has been established in Brunei town since 1901. Mangrove bark is collected in all the creeks of the Brunei estuary under the terms of a monopoly granted by the late Sultan, and this bark is brought upriver by native boats to the factory. The industry employs some hundreds of Malays.

A certain amount of boat and tongkang building is carried on in the Tutong and Balait rivers, and considerable skill is shown in the construction of these vessels. They are, however, only built to meet local demands.

MINERAL DEPOSITS.

Coal, oil, and iron are known and gold and antimony are said to exist in the State, but though various concessions have been granted in the past none have been worked, and none are now operative except those of the Rajah of Sarawak, purchased from Mr. Cowie, the original concessionaire. The Rajah has worked a coal mine at a place named Brooketon, in the Muara district, at the mouth of the Brunei

River, for over twenty years, and has also more recently commenced mining for coal at a place called Buang Tawer, on the Brunei River, about 3 miles below the town of Brunei. The output of coal is stated to have been seriously interfered with during the latter part of the year by the flooding of one shaft of the Brooketon mine and the outbreak of fire in the other.

Six prospecting licenses for oil were issued during the year, but it is as yet uncertain what success will attend the efforts of the prospectors to find oil in paying quantities.

CANADA.

STATISTICS OF IMPORT AND EXPORT FOR THE PAST FISCAL YEAR.

Consul-General John G. Foster, of Ottawa, and Vice-Consul-General P. Gorman, of Montreal, forward unrevised newspaper summaries of the foreign trade of Canada for the past fiscal year, which state:

The foreign trade of the Dominion for the twelve months ending March 31, 1908, totaled $638,390,291, which is an increase of $25,818,940 over the record of the preceding year. The total imports of $358,373,685 represented a gain of $18,008,940, and the total exports of $289,016,606 a gain of $7,810,000. Of the exports $246,960,968 was in domestic produce, as compared with $239,634,767 in 1907. The exports of foreign produce amounted to $33,045,638, as compared with $32,571,839 in 1907.

The statement of the year's trade by classes is as follows, the first figures in each case being for 1907 and the second for 1908:

Imports.—Dutiable goods, $200,901,500, $218,105,116; free goods, $129,858,781, $133,719,908; coin and bullion, $9,604,464, $6,548,661; totals, 1907, $340,364,745; 1908, $358,373,685; duty collected, 1907, $53,006,456; 1908, $58,230,751.

Exports (Canadian produce).—The mine, $36,146,140, $39,177,133; the fisheries, $13,786,437, $13,867,368; the forest, $45,823,172, $44,170,470; animals and their produce, $67,877,104, $55,101,260; agriculture, $49,544,327, $66,069,939; manufactures $26,279,049, $28,507,124; miscellaneous, $178,538, $67,674; totals, 1907, $239,634,767; 1908, $246,960,968.

During the month of March the imports amounted to $30,052,232, as compared with $36,842,076, a decline of $6,789,844. The exports of domestic produce, however, of $17,943,487 represented a gain of $2,983,214, made up of increased exports of agricultural produce, of increased exports of minerals, of fisheries, and of manufactures.

SANTO DOMINGO.

INCREASED IMPORTS AND EXPORTS—COUNTRIES SHOWING IN THE TRADE.

From the annual summary of the commerce of the Dominican Republic for the calendar year 1907, submitted to the Bureau of Insular Affairs, War Department, on March 2, 1908, by the General Receiver of Dominican Customs, the following statistics are compiled:

The following statement shows the imports and exports of the Dominican Republic from and to the principal countries in 1905 and 1907:

Imports from—	1905.	1907.	Increase.
United States	$1,961,020	$2,863,709	$902,689
Germany	441,450	953,963	512,513
United Kingdom	366,684	761,787	395,103
France	150,304	250,408	100,104
Spain	43,417	123,448	80,031
Italy	80,873	103,903	23,030
All other countries	52,515	98,903	46,388
Total	3,096,263	5,156,121	2,059,858

Exports to—	1905.	1907.	Increase (+) or decrease (−).
United States	$4,484,271	$3,329,018	−$1,155,253
Germany	1,261,006	2,759,624	+ 1,498,618
United Kingdom	82,800	330,787	+ 247,987
France	953,065	1,078,308	+ 125,243
Spain	----------	4,329	+ 4,329
Italy	----------	11,617	+ 11,617
All other countries	114,956	124,853	+ 9,897
Total	6,896,098	7,638,536	+ 742,438

While the foregoing figures show that the imports from the United States constitute much more than one-half the value of the total imports of the Republic, it also shows that they have not kept pace with the increased trade of the Republic, the American share of the sales having dropped from 63.3 per cent in 1905 to 55.5 per cent in 1907. On the other hand, Germany rose from 14.3 to 18.5 per cent, and the United Kingdom from 11.9 to 14.9 per cent.

IMPORTS BY ARTICLES AND COUNTRIES.

The following statement showing the value of the leading imports into the Dominican Republic and the countries from which they were chiefly imported in 1905 and 1907 will enable American exporters to see wherein they have failed to keep pace with the increased trade of the Republic:

Articles and countries.	1905.	1907.
Agricultural implements:		
United States	$25,394	$20,491
Germany	19,230	21,238
United Kingdom	2,427	4,685
All other countries	1,780	74
Total	38,831	46,488
Books, maps, etc.:		
United States	2,563	3,789
Germany	1,542	5,224
Spain	463	4,670
France	1,445	2,986
Cuba	388	2,526
All other countries	35	583
Total	6,436	19,778
Flour:		
United States	208,968	322,734
All other countries	855	3,052
Total	209,823	325,786
Cotton manufactures:		
United States	218,100	494,279
United Kingdom	190,074	506,737
Germany	60,450	90,630
France	36,347	54,542
Spain	20,102	58,698
Italy	27,701	13,793
Total	552,774	1,218,679
Earthen and china ware:		
United States	589	1,387
Germany	13,144	26,633
United Kingdom	1,915	3,970
All other countries	1,088	2,158
Total	16,736	34,148

Articles and countries.	1905.	1907.
Fish, preserved, and products:		
United States	$109,455	$155,643
Germany	933	2,864
Spain	1,264	2,410
All other countries	2,482	1,317
Total	114,134	162,234
Glass and glass manufactures:		
United States	5,605	13,288
Germany	3,099	8,159
All other countries	859	1,781
Total	9,563	23,228
Hats and caps:		
United States	9,070	3,603
Italy	47,364	49,670
Spain	144	7,677
All other countries	8,952	3,431
Total	65,530	64,381
Iron and steel, and manufactures of:		
United States	287,381	381,081
United Kingdom	63,568	87,796
Germany	37,022	42,759
France	10,438	16,476
All other countries	5,750	9,595
Total	404,159	537,707
Clocks, watches, and jewelry:		
United States	1,532	4,551
Italy	1,141	10,596
France	3,588	7,981
Germany	846	2,112
All other countries	192	48
Total	7,299	25,288

Articles and countries.	1905.	1907.
Leather, and manufactures of:		
United States	$59,455	$116,988
United Kingdom	3,860	8,989
Germany	3,188	5,678
France	4,988	5,060
Spain	1,312	2,209
All other countries	161	209
Total	72,964	139,133
Malt liquors (beer in bottles):		
United States	5,240	9,174
Germany	30,572	59,415
United Kingdom	690	2,272
All other countries	2,650	1,565
Total	39,152	72,426
Oils:		
United States	147,309	239,446
Spain	2,013	11,957
France	1,653	2,315
United Kingdom	1,057	2,149
All other countries	3,902	12,330
Total	155,934	268,197
Paints, pigments, and colors:		
United States	9,117	10,805
United Kingdom	2,577	5,785
Germany	2,505	3,728
All other countries	166	220
Total	14,365	20,538
Paper, and manufactures of:		
United States	13,170	14,654
Germany	7,945	17,461
All other countries	7,134	9,068
Total	28,249	41,183
Provisions, meat and dairy products:		
United States	72,834	154,235
Germany	56,101	116,550
Porto Rico	1,241	20,460
France	4,870	8,170
All other countries	3,149	6,166
Total	138,195	305,581

Articles and countries.	1905.	1907.
Rice:		
United States	$31,618	$41,947
Germany	127,704	380,564
United Kingdom	35,334	41,304
All other countries	6,673	8,330
Total	201,329	472,145
Soap:		
United States	22,382	46,566
All other countries	540	1,595
Total	22,922	48,161
Sugar and candy:		
United States	22,265	69,744
France	1,457	3,897
Germany	1,549	2,017
All other countries	1,326	4,503
Total	26,597	80,162
Vehicles:		
United States	14,914	19,968
Germany	.....	16,060
All other countries	450	1,106
Total	15,364	37,134
Wines and liquors:		
United States	2,693	959
France	10,290	19,566
Spain	4,394	11,230
Germany	2,988	7,019
All other countries	2,535	6,001
Total	22,900	44,775
Wood, and manufactures of:		
United States	87,355	141,731
Germany	4,719	12,125
France	598	2,311
All other countries	3,510	2,920
Total	96,182	159,087

EXPORTS BY ARTICLES—NATIONALITY OF SHIPPING.

The principal exports of the Dominican Republic in 1907 were as follows: Cocoa, $2,988,453, of which $1,185,096 worth went to Germany, $936,057 to the United States, and $865,249 to France; raw sugar, $2,099,679, of which $1,775,121 worth went to the United States, and $314,728 to the United Kingdom; leaf tobacco, $1,341,233, of which $1,260,335 worth went to Germany, $59,622 to France, and $12,891 to the United States; bananas, $319,500, all to the United States; coffee, $252,390, of which $93,894 worth went to France, $65,159 to the United States, and $63,441 to Germany; the other exports were composed of hides and skins ($134,040), honey, sisal, wax, woods, etc. The decreases recorded in the exports to the United States in 1907 as compared with 1905 occurred in sugar ($2,068,316) and in tobacco ($131,000), while increases occurred in the exports of cocoa, bananas, coffee, and hides and skins.

The following statement shows the nationality of the shipping through which the foreign trade of the Dominican Republic was conducted in 1907:

Flag.	Imports.		Exports.	
	Value.	Per cent.	Value.	Per cent.
American	$2,804,605	54	$2,596,464	34
German	1,629,715	32	2,538,631	33.2
All other flags	721,801	14	2,503,441	32.8
Total	5,156,121	100	7,638,536	100

PARAGUAY.

ARGENTINA, GERMANY, SPAIN, AND ITALY CONTROL THE GROCERY TRADE.

Consul Edward J. Norton, of Asuncion, in transmitting the following information concerning the grocery trade of Paraguay, reports that foodstuffs, provisions, and groceries form the second group of the imports of the Republic, being only exceeded by the imports of textiles:

The value of foodstuffs, provisions, and groceries imported into Paraguay during the years 1903, 1904, and 1905 were as follows, in gold: $621,831, $619,321, and $586,123, respectively.

Argentina supplies, on an average, 50 per cent of the trade in the form of wheat and wheat flour, the imports from that Republic in 1905 amounting to $333,217.

Fully one-half the balance of the trade in foodstuffs is credited to Germany, consisting of rice, canned vegetables and fish, delicatessen products, soups, oatmeal, rice, bean and corn flour. Spain occupies third place with sales of olives, olive oils, canned vegetables, beans, and pickles; and Italy is fourth, supplying olive oils, macaroni, and paste products, tomato sauce, and preserves.

Fine fruit preserves, fancy canned vegetables, such as asparagus, mushrooms, etc., preserved meats, patés, etc., preserved cheese, jams, and biscuits, come from France.

The sixth place is held by the United Kingdom, with teas, cocoa, dried fruits, jams, pickles, canned meats, fish, and vegetables, hams, bacon, oatmeal, and condensed milk, and the United States comes seventh, supplying a very limited line of canned salmon and oysters, deviled ham, cereals, California fruits, corn starch, and baking powder. Paraguay has been neglected by American exporters of groceries, who should have a much larger share of this trade than they have at present.

SALABLE FOODS—SHIPPING ADVICE.

The following American goods, especially, ought to be sold here: Laundry starch, sardines, navy beans, flavoring extracts, baked beans, cheese, canned fruits, dried fruits, prunes, salt codfish, boned codfish, raisins, pickles, and table syrups, chocolate, condiments, candies, cocoa, desiccated cocoanut, hams, condensed milk, canned vegetables, bacon, etc.

California canned fruits are not sold here to the extent they should be. Jams and preserves are in good demand. Cocoas, chocolate, and

cheap confectionery are staple goods. American condensed milk is not known here. Dried fruits come from Europe, instead of from the United States. American pickles will easily hold their own against the European goods now sold here. Hams and bacon come also from Europe.

Dried fruits for this market should be packed, as for tropical climates, in carefully sealed packages. Hams and bacon should have extra heavy canvas wrappings.

All merchandise for Paraguay is subject to transshipment at Montevideo, and, as cargoes are discharged generally from ship to lighters, packages are subject to rough handling. Cases of canned goods should be strapped with iron, or better yet for this market—in fact, for any point south of the Isthmus of Panama—extra heavy cases should be used.

Groceries pay, on an average, 35 per cent ad valorem duty in Paraguay.

As dealers here usually complain that freights and expenses are much higher on goods coming from the United States than from Europe, through freight rates should be obtained if possible, and goods for Paraguay should be marked, "Montevideo" or "Buenos Aires" (point of transshipment), "Transito para Asuncion." [A list of the names of the principal importers of groceries in Paraguay and the address of Asuncion commission men who would act as agents for American manufacturing grocers, together with some European catalogues and price lists, transmitted by Consul Norton, are on file in the Bureau of Manufactures.]

URUGUAY.

INCREASE IN BOTH IMPORTS AND EXPORTS LAST YEAR.

In a message to the Uruguayan Congress the president of that Republic made the following references to the foreign trade for last year:

A general estimate shows that the total trade of Uruguay for 1907 amounted to $69,576,143, of which $34,425,205 was for imports and $35,150,937 for exports. These figures indicate an advance of about $8,000,000 over 1905 statistics, when the foreign trade aggregated $61,551,850, comprising imports worth $30,777,603 and exports worth $30,771,247. It is thus shown that both branches of trade made noteworthy gains. The customs revenue in 1907 was greater by $331,612 than in 1906, while a treasury surplus of at least $1,800,000 is anticipated for the close of the fiscal year on June 30, 1908, as expenditures to that time are fixed at $10,652,919, including an extraordinary item of $410,602, to meet which an anticipated revenue of $12,453,780 will be available on the basis of the receipts of the preceding year.

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

GREECE.

PROPOSED EXTENSIONS IN SEVERAL PARTS OF THE KINGDOM.

Consul Edward I. Nathan, of Patras, advises that the railroad lines in western and southern Greece are to have several important extensions if the plans now under consideration are carried out. The consul describes these lines as follows:

At present the lines in southern Greece practically consist of a belt line encircling the Peloponnesus (peninsular Greece). They are operated by the Piraeus, Athens and Peloponnesus Railroad Company. From Athens the line, which has a total mileage of 750 kilometers (kilometer=0.62 mile), runs to Corinth. At this point it divides into two branches, which by different routes both run to Calamata, an important port of southern Greece. The eastern branch runs via Argos and Tripolis. There is a short spur running to Nauplia, a commercial port in the province of Argolis, and a resort for tourists visiting the ruins at Mycenae, Tiryns, and Epidauros. The western branch from Corinth runs to Patras, a distance of 82 miles (139 miles from Athens), and thence via Pyrgos to Calamata, an additional 179 miles. From Pyrgos there is a branch of 13 miles running to Olympia, the ruins of which are constantly visited by tourists.

There is at present a 9-mile narrow-gage railway from Diakofto, a station on the main line between Corinth and Patras, to Kalavryta, in the mountains of the Peloponnesus. From this point a railway to Tripolis has also been projected, but in view of the difficulty of its construction across the mountains, its small commercial importance, and the more urgent needs of other localities, there is small prospect of its realization in the near future.

NEW PRODUCING REGION TO BE OPENED.

There is at present no railroad communication with Sparta. There is a carriage road 37 miles long extending from there to Tripolis, and it is proposed to parallel this with a railroad which is to extend from Tripolis via Sparta to Gytheion, another port of southern Greece. The opening of direct railroad communication between these points and Athens and Patras would be of great importance to trade and emigration, since almost the entire trade of the Peloponnesus is conducted through these two cities, and one of the main sources of Greek emigration to the United States has been the district about Sparta. The passenger traffic would also be considerably increased by tourists to Sparta, who are now compelled to travel over the carriage road and suffer considerable inconvenience.

Another proposed railroad extension is that of the Northwestern Railway, a branch of the Piraeus, Athens and Peloponnesus Company,

which, beginning at Krioneri, opposite Patras, across the Gulf of Patras (connection by steamer), runs via Missolonghi, the resting place of Byron and the heroes of the Greek war of independence, to Agrinion, an important commercial town of the province of Acarnania-Aetolia. The extension is to run via Caravassera to Arta, on the Ambracian Gulf, a distance of 70 to 80 kilometers, about equal to the present length of the railroad. As the region thus to be opened to railroad communication is important for the production of tobacco, citrons, olives, and cheese, much of which is shipped from Patras, the value of the proposed extension is apparent.

The railroads are of the standard European gage except as stated. The rails are of Belgian manufacture and the rolling stock of German and Austrian locomotives and cars. All inquiries should be directed to M. Caloyeropoulis, minister of the interior, Athens, Greece.

GERMANY.

PROJECTED PLANS FOR THE ELECTRIFICATION OF SEVERAL LINES.

Consul Talbot J. Albert sends the report from Brunswick that a beginning with electrifying of some of the railroads in Prussia will soon be undertaken, the preliminary plans being as follows:

The railroad ministry will permit the first great attempts to be made with electrical power in connection with the centrals now existing in the administrative district of Magdeburg. In the first place the short sections Güsten-Stassfurt and Güsten-Bernburg-Köthen will be arranged for electrical operation. Later, in further execution of plans, there will be a change of power on the line Magdeburg-Bitterfeld-Leipzig, and afterwards on the line Halle-Leipzig. Upon these, in themselves complete lines of road, electrical power will wholly supplant steam.

The line Leipzig-Halle has been chosen for a special reason. By the electrical operation between these two points there will be a greater increase in the speed and frequency of the trains dispatched, so that in this way Leipzig will be brought into closer connection with the western main lines. The two lines are under the district management of Halle, which has been instructed from the ministry at Berlin to make a detailed inquiry how far electrical power can be economically used in comparison with the present method of operation. It is said that the preliminary work for this statistical inquiry has already been done by the ministry, so that the administration at Halle has only to verify the results already obtained.

The most favorable factor for the economical determination of the question are the bituminous deposits (Braunkohlen) between Halle and Leipzig. This kind of coal is not considered a suitable fuel for locomotives. One electrical central will suffice for the operation of both lines, and this will be built in the midst of the coal strata. Some years ago the favorable location of these strata suggested the electrifying of the railroad between Köln and Trier, but this was abandoned.

It is said the passenger traffic will be handled in the same manner as upon the road Berlin-Lichterfelde-Ost, namely, with small trains and quick service. The express and freight trains will be dispatched with electrical locomotives. The length of the two lines together amounts to 102½ miles, the line Leipzig-Magdeb[illegible]ing about 80

miles and the line Leipzig-Halle 22½ miles. For the current, which will be conducted on thin wires, 10,000 volts will be required. It is calculated that the change in the system of operation will take two years.

ITALY.

FIELD FOR AMERICAN CAR FIXTURE INVENTORS.

Consul James E. Dunning, of Milan, forwards the following additional report, made by Clerk Siersdorfer of the consulate, on the opportunity for an American railway coupler in Italy:

The consulate's previous report, published in Monthly Consular and Trade Reports for November, 1907, gave the requirements of the Italian Government for a railway coupler. It was stated in the report that since the American manufacturer missed the opportunity of entering the concourse held at the Milan Exposition, the only thing for him to do was to keep a sharp lookout for another of its kind to be held in Italy. This opportunity has come sooner than expected. There were 200 entries in the concourse at the Milan Exposition and every device proved unsatisfactory in many different ways. Finally the Royal premium was not awarded, but was turned over to the "Collegio Nazionale Italiano d'Ingenieri Ferroviali," with the understanding that it would hold a second concourse as soon as possible.

Thereupon the college nominated a special commission, electing as president Engineer Ambrogio Campiglio, who had played an important part in the exposition concourse. The ministry has already donated $1,000 to the concourse with a view to making it interesting to foreign manufacturers. A short time ago the commission held its first meeting in Milan, when all necessary preparations for the coming concourse were commenced. The date is not yet arranged.

As has already been reported by the consulate, this is an excellent opportunity for American manufacturers to prove to the Italian Government the superior quality of their coupler. It may be remarked that this will probably be the last concourse of its kind held in Italy, and that every effort will be made by the Government to locate a satisfactory coupler. The American article will have plenty of competition, but in view of the late failure of foreign couplers to win favor it will stand at least an equal chance.

American firms interested should address "Engineer Cav. Ambrogio Campiglio, via San Giovanni sul Muro, 25, Milan," who will send them all necessary specifications and regulations for the coming concourse. Correspondence with Mr. Campiglio should be in French or Italian if possible, and American houses should ask from him all detailed information which the consulate's reports on the subject may lack.

UNITED KINGDOM.

INCREASED RECEIPTS AND WORKING EXPENSES ON SCOTCH RAILWAYS.

Consul Maxwell Blake, of Dunfermline, under date of March 31, furnishes the following statistics concerning the receipts and expenditures of the Scotch railways:

The statistics of Scottish railways for the half year past have just been made public by all the companies. The aggregate accounts of

all five of the operating companies of Scotland yielded a gross revenue of $30,027,837, which was an increase of $393,159 over the preceding corresponding period; while the working expenses aggregated $17,001,327, which was an increase of $754,755 for the half year. Thus there were larger earnings with a reduction of $364,028 of net revenue.

The five companies concerned show a gain, from the items of passenger traffic and mails, of $266,217, and of $127,658 from goods transported, but they suffered almost an unaccountable loss of $161,781 in the transit of minerals. This is in contrast to the English railways, whose largest increase was for the transit of coal.

Examining and comparing the accounts further, it is observed that the total wage bill was $52,558 greater, and that the cost of materials was $105,603 greater. Coal cost the five companies $710,995 more than it did the previous half year.

The foregoing is given as a reason for the unusually low dividends declared, the highest of which was 1 per cent, paid on the South Western, the lowest being ¼ per cent on the deferred and ordinary stock of the North British.

As all roads show an increase in working expenses, extraordinary efforts are now being made to check the downward trend of dividends. At many stations competing lines are inaugurating a joint ticket office, and are otherwise coming to effective agreements as to policy of management or the actual pooling of interests; as, for example, between Edinburgh and Glasgow, where the traffic is hereafter to be apportioned between the only two roads, upon an agreed basis of division, irrespective of the gross returns of either line.

NORWAY.

SEVERAL LINES TO BE BUILT BY THE GOVERNMENT.

Consul Felix S. S. Johnson, of Bergen, reports that the railroad committee has reported favorably the Norwegian Government's proposal for constructing the following lines:

(1) From Domaas over Dovre to Støren, with a reconstruction of a broad-gage track from Støren to Trondhjem; (2) from Domaas through the Rauma valley to the inner end of the Romsdalsfjord; (3) the portion of a Vestland railroad from Kongsberg to Naeslandsvand, with branches from Naeslandsvand to Kragerø, and from Hjuksebø to Notodden; (4) continuation of Arendal-Aamli railroad to Tveitsund; (5) the portion of a Nordland railroad from the Sunnan over the Snaasen to Grong; (6) branch, Myrdal-Fretheim.

CHINA.

DECREASED RECEIPTS AND DULL TRADE IN MANCHURIA.

Consul-General James W. Ragsdale, of Tientsin, transmits the following information concerning the working of the Imperial railways of North China, for the year ended September 30, 1907, as given in the report of the directors:

Accounting for the decreased income the directors report as follows:

For several reasons the trade of North China generally was not so good during the year 1907 as during 1906. Large stocks of cotton piece goods and other merchandise intended for Manchuria failed to find a market. Dealers in native produce have also been complaining of the stagnation of trade. This state of affairs culminated in the suspension of one of the largest Chinese firms in North China. The trade returns of the Imperial Chinese maritime customs for the ports of Tientsin and Newchwang both show large decreases and the railway, among others, has suffered in this trade depression. Another factor tending to diminish our receipts has been the activity of shipping competition for passengers between Tongku and Newchwang, while the railways in Manchuria have also come into competition with us both in passenger and freight traffic.

The total earnings for the past three years are as follows, all moneys being Mexican dollars, equal to 46.6 cents gold:

Receipts and expenditures.	1905.	1906.	1907.
Earnings	$12,903,384	$12,121,159	$9,944,857
Working expenses	$2,914,102	$3,429,943	$3,686,320
Ratio in percentage of working expenses to earnings	22	28	37

The earnings were received from the following sources: Passengers (3,276,202), $5,046,139; freight, military and miscellaneous (1,474,008 tons), $4,898,727. The principal expenditures were for the improvement of the line, $2,132,526; salaries, office expenses, etc., $165,734; wages, materials, etc., $852,232; all other, $535,828; total, $3,686,320.

Steady progress has been made in the important matter of extending the safety appliances on the line and the directors report that 3,276,202 passengers were carried throughout the year of 1907 without any train accidents resulting in loss of life. The first-class passenger and dining cars are lighted by electricity and are provided with electric fans during the hot season. These cars are comfortable and in every way creditable to the administration.

The total number of miles of main line open to traffic on September 30, 1907, was 600, 38 miles of line—from Hsin-min-tun to Mukden—purchased from the Japanese military authorities on June 1, 1907, having been added during the year.

ROLLING STOCK—MACHINE SHOPS—WAGES OF EMPLOYEES.

The rolling stock consists of 236 passenger cars, 2,673 freight cars, and 117 engines or locomotives. The company has 4 machine shops, giving employment to 6,653 laborers. The principal shop, at Tongshan, is electric lighted and provided with electric fans; the others are not so favorably provided. Both engines and cars are newly built by the company at these shops, in addition to the many repairs required for the old stock. Bridging irons are also cast for the new bridges and for the repairs of old ones. The company also owns its own telegraph line, with 1,384 miles of wire, besides 317 miles of electric or telephone service, with an average of 273 operators and employees. Over these lines 144,661 messages were sent during the year.

The monthly wages paid to native employees are as follows, in Mexican dollars: Conductors and engine drivers, $22 to $75; firemen, $9 to $38; brakemen, $6 to $12; section foremen, $12 to $45; section laborers, $8. Foreign conductors receive from $150 to $180. Mechanics in the machine shops receive from $12 to $50.

BRITISH NORTH BORNEO.

RAILWAY BUILT, OWNED, AND OPERATED BY THE GOVERNMENT.

The following report concerning the railway line on the west coast of British North Borneo, is furnished by Consul Lester Maynard, of Sandakan:

The British North Borneo line is the only railway in the territory and was built and is owned and operated by the government. The construction of the road commenced in 1896 and the line was completed from Jesselton to Tenom, with a branch from Beaufort to Weston, in 1905. A further extension, from Tenom to Melalap, of 10 miles is now under construction, and Dutch rails are being used. On the main line there are 62 miles of British-made 30-pound rails and 60 miles of American rails of the same weight, totaling at the present time 132 miles of 1-meter gage (39.37 inches), of which 122 miles are in operation. The total cost of construction (capital cost), including rolling stock, etc., up to the end of 1905 was $2,800,000 gold.

The construction of the road was extremely difficult on account of the nature of the country, and the builders evidently desired to complete the road at as little cost and in as short a time as possible. For two-thirds of the distance from Jesselton to Beaufort the road is parallel to the sea coast, and it is not until it runs inland that good country is opened. From Beaufort to Tenom the road follows the course of the Padas River, and 33 miles of cuttings were made in the gorge, which is very narrow, and as the hills on either side are steep and high the line again fails to open up country. Had the line been constructed farther inland it would have cost much more and would have taken longer to build, but it would have passed through the rich valleys of the foothills. Beyond Tenom the soil is well suited to the cultivation of tobacco and rubber.

EXTENSION PROSPECTS, EQUIPMENT AND OPERATION.

It is the intention, it is said, of the government to extend the line beyond Melalap. If this is done it will pass through a great rich valley, but it will probably be several years before this is accomplished.

The rolling stock at the present time consists of 4 freight and 5 passenger engines, and 160 freight and 18 passenger cars. Of the engines 1 is 35 tons, 2 are 30 tons, 4 are 25 tons, and 2 are 12 tons. The largest freight cars are 16 feet in length and have a capacity of 10 tons; the passenger cars are 30 feet in length and accommodate 40 passengers. About 50 16-ton meter-gage steel trucks were ordered from England in 1907, but the order has not been filled to date.

The rolling stock is considered very heavy, and in many places the road resembles a switch back, climbing a short, steep hill, rounding a sharp turn, and rushing down the opposite side directly onto a bridge.

Two passenger trains are run daily (Sunday excepted) between Jesselton and Tenom, one in each direction. The average rate of speed of passenger trains is 12 miles an hour. Freight trains are run between Jesselton and Beaufort three times a week and between Beaufort and Tenom twice a week, one in each direction.

There are about 70 bridges, of which the longest is 600 feet, and two tunnels, 600 and 200 feet, respectively. During the rainy season,

or about half the year, the roadbed is continually being washed out and landslips occur after each heavy rain, but as labor is cheap the upkeep of the line is about $14 gold per mile per month.

The revenue and expenditure of the railroad for the year 1906, the latest year for which statistics are available, were as follows, in gold: Working expenses, $60,258; receipts, $37,237; deficit, $23,021. [The laws and regulations governing the road, the classification of goods, and passenger and freight rates, transmitted with Consul Maynard's report, are on file in the Bureau of Manufactures.]

TUNIS.

COLONY AFFORDS A PROSPECTIVE MARKET FOR AMERICAN ENGINES.

Consul-General Robert P. Skinner, of Marseille, is in receipt of an inquiry from an American firm of locomotive builders in regard to the outlook for the sale of their engines in France, to which he replies:

I see no immediate probability of securing contracts in this country, but suggest that attention be turned to Tunis, where the railroad system is undergoing radical reconstruction and important extension. It would probably be worth the while of American builders to enter into direct correspondence on this subject with our consular agent, Auguste J. Proux, with a view to being represented in Tunis at the proper time. Some American locomotives have already been delivered in Tunis, and within recent months a contract has been passed by the Government with a firm of Cassel, Germany, for fourteen machines, and another with works in Berlin for a similar number of machines. Mallet compound engines with six-coupled axles have been ordered. The copper work is required to be of French manufacture, but there is no specification as to the other parts. It is understood that the price is to be about 100,000 francs ($19,300) each, delivery to be made within twelve months. The whole matter is under the charge of the Directeur-Général des Travaux Publics, at Tunis.

A law of January 10, 1907, authorized the Tunisian government to borrow 75,000,000 francs ($14,475,000) for the purpose of completing and extending the railroad system of the Regency, this loan to be made by successive fractions, according to public necessities. Expenditures were provided for, immediately after the passage of the law, to the extent of 20,000,000 francs ($3,860,000), and, under date of April 25, 1908, further expenditures of 20,000,000 francs ($3,860,000) have been authorized by the President of the Republic. Of this amount 3,800,000 francs ($733,400) must be devoted to the building of routes; 12,200,000 francs ($2,354,600) to railroad construction, and 4,000,000 francs ($772,000) to the purchase of rolling stock.

French statistics include locomotives and steam engines under the same head, the figures for the last three years being as follows:

	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Importations	6,298	1,735	970
Exportations	2,397	2,155	2,240

SALVADOR.

PROPOSED EXTENSION TO CONNECT WITH LINE IN GUATEMALA.

In previous reports from Consul-General Samuel E. Magill allusion has been made to the great value which a railroad connecting Salvador with a port on the Atlantic would be to American trade with Salvador. Mr. Magill now writes under date of April 13:

The construction of such a road has been made possible by the completion of the Guatemalan Northern from Puerto Barrios, on the Atlantic, to Guatemala City, necessitating only a line from Zacapa, Guatemala, to Santa Ana, Salvador, to connect with the Salvador Railway Company.

As the territory of Salvador touches the Pacific Ocean only, the advantage of an accessible port on the Atlantic is evident. It now requires from fifteen to thirty days' time to make the journey from San Salvador to New York, as much as is necessary to go from New York to Japan or South Africa, and the delays and changes are numerous.

For freight shipments the advantages would be even greater than for passenger traffic, as shipments could reach Puerto Barrios in eight days from New York and in three days from New Orleans, thence to San Salvador in two days, which short time would place the trade of Salvador in the hands of the merchants and manufacturers of the United States in a way that no other influence could possibly do. It would likewise work a change in the volume of American trade with this country such as was caused in Mexico after 1885 by direct railroad communication with the United States.

SURVEYS UNDER WAY—IMPORTANCE OF THE PROJECT.

To bring this about it is necessary to build about 100 miles of road, half in Guatemala and half in Salvador, which construction the builders of the Guatemala Northern are willing to undertake. They are making preliminary surveys over the route starting from Zacapa, having reached a point wthin 8 miles of the frontier.

About a year ago Salvador granted a concession to build the road in its territory, but there were clauses in the contract which the proposed builders could not accept and the matter was not closed; the Salvador Railway Company now appears and offers to accept the contract, clauses and all.

The Guatemala Northern Railway Company is an American concern, while the former is owned and managed by Englishmen.

Over this proposed line the letter mail between this country and the United States and Europe now goes weekly on mule back, and has thus gone for some years. This clearly demonstrates the time to be saved by this route over that via Panama or Salina Cruz, Mexico, while I know of no greater factor in the commercial opening of this country to American trade than the construction of this proposed road. Another consideration of perhaps greater importance would be the effacement, commercially, of the frontier between the two countries named and the influence of these, the two most populous States of Central America, would tend to insure its future growth and development.

The latest information that the writer has been able to get is to the effect that the Government of Salvador is at present disposed to give the desired concession to the representatives of the American

interests, who agree to commence work as soon as the surveys are completed and push the work to its completion as fast as possible.

BRAZIL.

WORK TO BE PUSHED ON BRAZILIAN LINK OF PAN-AMERICAN LINE.

Consul-General George E. Anderson, of Rio de Janeiro, advises that final arrangements for the immediate construction of the railway connecting the present governmental system in the State of Sao Paulo with the Bolivian frontier at Corumba seem to have been made by the Brazilian authorities. Mr. Anderson adds:

An agent of the constructors sailed from Brazil on April 2 for Europe for the purpose of negotiating for materials and supplies for the new road. Work upon the engineering details has already begun and preliminary work for commencing operations at the Sao Paulo end of the enterprise has been done. The contract calls for the completion of the 1,100 kilometers (kilometer=.62 mile) of the road in thirty months, the portion yet remaining of the present federal administration in Brazil. Work will be pushed from either terminus and it is expected that by March, 1909, the road proceeding from the Sao Paulo terminus will have reached Itapura, on the Parana. The expedition for work from the Corumba end is about to leave Rio de Janeiro.

The entire work is to be done by the French syndicate which has the contract for the Sao Paulo portion of the system and which has been prosecuting the work in that State for the past year. The road, as so far completed and as now projected, starts from Bauru, in Sao Paulo, running northwest to Itapura. The road has been completed about one-third of the distance between Bauru and Itapura and graded more than half of the balance of the distance. Considering the nature of the country and the amount of work to be done, the contract for the completion of the entire work in thirty months is notable.

As indicated in previous reports from this consulate-general, the railway when completed will form an important link in the projected Pan-American railway system. [The address of the construction company is obtainable from the Bureau of Manufactures.]

COLOMBIA.

SEVERAL IMPORTANT LINES TO BE CONSTRUCTED.

Consul Isaac A. Manning, of Cartagena, reports that according to a telegram received at Bogota bearing date of London, March 11, the money for the construction of the railway leading from Puerto Wilches on the Magdalena River to Bucaramanga, capital of the Colombian Department of Santander, has all been subscribed there, and that it is presumed work will begin at once.

According to recent reports the rails have been laid on the Girardot railway to kilometer No. 82, a league beyond the station at Hospicion. About 3,300 laborers are employed on the construction at present.

The Minister of Public Works has declared the maps submitted of the surveys made on the Uraba or Darien railway unacceptable to the Government. Mr. Henry G. Granger, the concessionaire, has

been given a year in which to present new plans or surveys of the line from its point of beginning at Uraba or Ciudad Reyes to Dabeiba, and two years to present maps of the rest of the line to Medellin.

ELECTRIC CAR LINES.

UNITED KINGDOM.

A SURFACE-CONTACT SYSTEM ABOUT TO BE ESTABLISHED IN LONDON.

In furnishing information concerning the equipment of a surface-contact line about to be opened for traffic in London, Consul-General Robert J. Wynne reports that while this system has been talked about for years little or nothing has resulted in practice up to the present undertaking. He writes:

The electric railways of London are for the most part constructed on the slotted conduit system. The cost of the track work alone, with its deep excavation for the conduit, is over $170,327 per mile of double track. Attempts have been made to get the borough councils to consent to the overhead-wire system, which would only cost half the money for permanent way, including poles and wires. These attempts have failed. Millions are being spent in the London electric railroads, miles of horse lines remain yet to be electrified, and additional routes require to be opened up. Despite the enormous traffic the tramways, according to a recent commercial audit, are barely paying their way.

COST DETAILS OF THE NEW LINE.

During last summer, the new council approved a proposal to try a surface-contact system, and on the advice of their engineering experts chose a system which is in use in Lincoln. The route selected is the horse tramway from Aldgate along Whitechapel and Mile End roads to Bow, a distance of 3 miles. The leakage amounts to only a fifth of an ampere for 3 miles of track, and the current consumption is only 1 unit per car mile, with 9-ton cars on a level track. The London route is level. The cost of construction is put generally at about $4,866 per mile of single track more than for the overhead-wire system. The following figures have been put before the county council as the cost of the Aldgate to Bow installation. The length of route is 3 miles, giving 6 miles of single track: Track construction, $236,599; rails, $53,531; special track work, $14,600; feeder cables and cable ducts, $67,401; surface-contact equipment for 48 cars, $16,351; royalties, $14,600; total, $403,082.

This is equal to $67,180 per mile of single track. A large part of the track construction item would be the same for the trolley system, and the rails, special track work, and feeder cables and ducts would be exactly the same. It will be noted that the cars themselves are not included, as they form part of the council's stock. Forty-eight of these—large cars with roof covers—may be estimated roughly at $194,660, bringing the total for construction, equipment, and rolling stock up to about $597,742, or some $99,624 per mile of single track.

Power station and substation costs are, of course, left out, as the city's power station supplies current for the whole of the systems both north and south of the Thames.

RUSSIA.

NEW ELECTRIC LINE SUPPLANTS ANIMAL POWER TRACTION.

In stating that the first electric street-car line in Warsaw started in operation in April, Consul Hernando de Soto gives the following particulars of the new system in that Russian city:

The electric line succeeds horse-drawn cars introduced in 1881 by a Belgian company, which in 1889 sold it to the city for an annual payment of $175,000 until the expiration of the concession, in 1916. Operating 304 cars and charging passengers 7 kopecks (3.6 cents) first class and 5 kopecks (2.5 cents) second class for not exceeding 2 miles, a gross revenue of $839,052 was secured in 1907. No change of wages to employees is contemplated in the substitution of electric for horse cars. The daily hours are from 7 a. m. to 11.30 p. m., with intervals for meals, for which drivers receive 62 to 67 cents; conductors, 62 to 83 cents. Inspectors receive $30.90 to $41.20 per month.

The reconstruction work was carried on through a building committee appointed by the Emperor. The principal private contractors were German electric companies. There will be 180 cars with motors at the end of each, while the power house has 3 turbine generators of 1,800 horsepower each, the tension being 600 to 650 volts.

The system will be managed by a syndicate, which has closed a contract with the city until 1922. The syndicate agrees to pay the city an annual sum of 402,000 rubles ($207,030) and 5½ per cent on the invested capital of about 7,000,000 rubles ($3,605,000). Out of these receipts the city will continue the payment of 350,000 rubles per annum to the Belgian company up to the year 1916. After the expiration of this liability the income passes into the city treasury. Whatever surplus net profit remains after payment to the city of the sums agreed upon is to be divided into equal parts between the city and the syndicate.

MOTOR VEHICLES.

FRANCE.

EXPLOSIVE ENGINE MOTORS DRAWING FULL TRAINS ON THE HIGHWAYS.

Consul-General Robert P. Skinner, of Marseille, furnishes the following information concerning the running of passenger and freight trains on the highways of France:

There recently passed this consulate a "Train Renard," composed of a locomotor, two passenger cars, and one baggage car, which had just arrived from Paris under its own power and over the ordinary roads, thus supplying to the public a demonstration of its own efficiency. The trains mentioned are composed of elements, each receiving the energy of a vehicle called the locomotor, which being placed at the head of the train distributes the necessary power to the following elements by means of a transmission shaft extending from one end of the train to the other, thus enabling each car to utilize its own adhesion to the road surface as a means of advancement.

The locomotor—that is to say, the creator of the energy—is therefore lighter than any of the cars. Trains of this type completely loaded are able to maintain a speed of 21 kilometers (13.05 miles)

per hour in case of passenger trains on levels and of from 15 to 16 kilometers (9.32 to 9.94 miles) per hour in the case of freight trains. It is said that freight trains of this type are able to maintain an average of from 10 to 12 kilometers (6.21 to 7.45 miles), fully loaded, in any kind of country.

PUBLIC UTILITY OF HIGH-ROAD TRAINS IN FRANCE.

It would be useless to enter into further details regarding these high-road trains, as far as the United States is concerned, inasmuch as we are without a road system sufficiently advanced to make their application possible. On the other hand, the adoption of passenger and freight trains over railless roads in France has become not only a possibility but a fact. Already hundreds of inaccessible hamlets, hitherto served by slow-going diligences, are kept in constant contact with the outside world by means of large auto-omnibuses, moving at an average rate of 15 miles an hour, transporting both passengers and express parcels; and now, following this development, comes the explosive engine motor, drawing full trains of cars, which it is claimed can be operated on level or mountainous roads at an exceedingly moderate expense. In other words, if all that is claimed for these trains is realized, it will be possible to give 25,000 communes in France, which do not at present enjoy railroad facilities, approximately the same advantages with respect to transportation as the more populous and highly favored centers.

This illustrates how much the creation of a better highway system would benefit the rural populations of the United States, who are at a great disadvantage in regard to transportation as compared with foreign communities, and deprived of the various kinds of satisfaction resulting from the existence of modern highways. [Two illustrations, one of a passenger train and the other of a freight train, which accompanied Consul-General Skinner's report, are on file in the Bureau of Manufactures.]

UNITED KINGDOM.

TAXICABS RAPIDLY SUPERSEDING OTHER CONVEYANCES IN LONDON.

Consul-General Robert J. Wynne reports that taxicabs have become such popular street vehicles in London that the demand for them is much greater than the supply. He adds:

The taxicabs are used by all classes of people, day and night, at the uniform rate of 16 cents a mile, and they present a most attractive appearance in chocolate, blue, yellow, red, and green hues, with chauffeurs in the brightest and smartest liveries.

Although scarcely a year has passed since these swift-moving electric and petrol carriages appeared, the capital already invested in London taxicabs is $10,000,000. There are 758 taxicabs on the streets, 2,600 taxicabs on order, 1,700 licensed drivers, an average of 55 certificates granted each week. There are 8 London taxicab companies, their average day's takings of a taxicab being $11.20. The average cost of a London taxicab is $1,703, and its average takings are about $78 a week.

Some chauffeurs already are buying their own taxicabs on the installment plan, and the picturesque hansom is disappearing gradually like the old-fashioned horse bus, which practically has been crowded aside by the motor omnibus.

BERMUDA.

THE USE OF AUTOMOBILES NOW PROHIBITED BY LAW.

Consul W. Maxwell Greene, of Hamilton, reports that the act prohibiting the use of all motor cars in the colony of Bermuda, and to be in force indefinitely, passed both houses of the legislature, and on May 11 it received the signature of the governer and therefore became a law.

OCEAN STEAMSHIP SERVICE.

NICARAGUA.

LOCAL BUSINESS MEN LEASE THE GOVERNMENT GUNBOATS.

Consul José de Olivares, of Managua, makes the following report on a new navigation concern in Nicaragua:

A contract has been entered into between the Nicaraguan Government and a company represented by Gen. Rafael C. Medina, commander of the port of Corinto, and Robert C. Bone, a brother-in-law of President Zelaya, whereby the Government leases for a period of five years to said company the three gunboats comprising the principal part of the Nicaraguan navy. In substance the contract provides that the gunboats Momotombo (355 tons) and Angela (250 tons) are to be disarmed and turned over to said company to be used for passenger and freight traffic between Puntarenas, Costa Rica, and Acajutla, Salvador, said vessels touching at all intermediate ports.

The character of freight to be carried is cattle to Costa Rica and general produce between the various ports. The third vessel, the Once de Julio, a small steamer, it is stated will be used in connection with the company's salt works and general fishing enterprise in the Gulf of Fonseca, where a force of some 400 men will be constantly employed. As a financial consideration it is stipulated that the Nicaraguan Government is to receive half of the profits from the business transacted.

PANAMA.

OCEAN FREIGHT AND PASSENGER TRAFFIC AT THE PORT OF COLON.

Consul James C. Kellogg, writing from Colon, says that the lack of American merchant vessels is particularly noticed at that Panama port, where, with the exception of a little freight carried by five passenger steamers, all the material and supplies used in the construction of the Isthmian Canal and the Panama Railroad are received in foreign bottoms. The consul continues:

The number of tramps or cargo steamers arriving at this port and at the adjacent American port of Cristobal with cargoes from the United States for the Isthmian Canal and Panama Railroad showed an increase during 1907 of about 12 per cent over the number in 1906, which amounted to 104 vessels, of a total tonnage of 232,409. Of these vessels about 80 per cent were Norwegian and the remainder British, the United States being totally unrepresented. The only American line of steamships connecting this port with the outside world is the Panama Railroad Steamship Line of five steamers, which

arrive and depart from the American port of Cristobal, Canal Zone. This state of affairs can partially be accounted for by the fact that in the United States at the present time very few vessels, steam or sail, are being constructed to carry the products of the United States to foreign countries.

There are eight separate foreign steamship lines plying in the trade of this port, the majority of which schedule weekly sailings, which fact demonstrates the appreciation of and interest taken in the trade of the port by foreign companies and further emphasizes the necessity of an American merchant marine. These foreign steamship lines are as follows:

FRENCH, BRITISH, SPANISH, AND ITALIAN LINES.

Compagnie Generale Transatlantique, French, plying between Havre, in France, and Colon, via West Indies and the Spanish Main, has added two fast and magnificent steamers of 9,950 tons gross, with a speed of 16 knots, crossing the Atlantic in nine days and carrying both passengers and freight, which is steadily showing an increase.

Leyland Line, British, plying between Liverpool, New Orleans, and Colon, via Jamaica, operates steamers of 4,000 to 5,000 tons gross, carrying freight with passenger accommodations.

Royal Mail Steam Packet Company, British, plying between Southampton and Colon via New York, the West Indies, and the Spanish Main, operates magnificent steamers of 5,000 to 5,600 tons gross, with a speed of 15½ knots, carrying passengers and freight. This line has also increased its service and is doing a very profitable business.

Harrison Line, British, plying between Liverpool, New Orleans, and Colon, via Belize, British Honduras, operates steamers of 3,000 to 4,000 tons gross, carrying freight with passenger accommodations.

Compañia Trasatlantica Española, Spanish, plying between Genoa, Barcelona, and Colon, via Cuba, Porto Rico, and the Spanish Main, operates steamers of 5,000 to 6,000 tons gross, carrying passengers and freight. The service on this line is excellent.

La Veloce, Italian, plying between Genoa, Italy, and Colon via the Spanish main and ports of the north coast of South America, operates steamers of 3,000 to 4,000 tons gross, carrying passengers and freight.

AMERICAN LEASED VESSELS—GERMAN LINE.

United Fruit Company, American line of chartered foreign vessels, plying between New Orleans and Colon via Bocas del Toro, Panama, and Port Limon, Costa Rica, operates steamers of 1,500 to 2,500 tons gross, carrying freight, with passenger accommodations. The vessels of this line are all chartered, flying the Norwegian or British flag. The line has increased its service from a bimonthly to a weekly service, and the business has increased to such an extent that it is said that three large vessels are being built in England to meet the demand of the freight and passenger trade with this port. These new vessels are to fly the British flag. Much of the cold-storage products supplied to the Isthmian Canal Commission is carried by this line and landed at Cristobal.

Hamburg-American, German, plying between New York and Colon via Port Limon, Bocas del Toro, and Jamaica, operates magnificent steamers of 4,700 tons gross, with a speed of 13 knots, carrying passengers and freight. In addition, this concern operates a line between Hamburg and Colon which has recently been increased. The former service has been increased from a bimonthly to a weekly service. The Hamburg-Colon sailings are bimonthly.

There are also a large number of freight steamers arriving at Colon weekly, which supply the Panama Railroad Company and Isthmian Canal Commission with coal and lumber, all flying the Norwegian or British flag.

In Colon there are five docks; three of these belong to the Panama Railroad Company, one to the Royal Mail Steam Packet Company, and one to the Pacific Mail Steamship Company. At the adjoining port of Cristobal, Canal Zone (formerly a part of Colon), there are two large docks built by the Isthmian Canal Commission. At these docks land the Panama Railroad Steamship Line vessels and many freight steamers, which bring cargoes for the Panama Railroad and Isthmian Canal Commission.

LAYING TRADE FOUNDATIONS.

While Germany and England are increasing their merchant marine, their trade with the Latin Americas is also increasing. Both countries are building up a permanent trade which, by the time the Isthmian Canal is completed, will be of very large proportions. Even at the present time they are reaping the benefits accruing from the increased traffic caused by the construction of the canal.

So far, very little attempt is being made by the merchants of the United States to secure a part of this foreign traffic, which amounts annually to millions of dollars. They are reaching out for foreign trade and commerce, but without a merchant marine with which to increase their transportation facilities, to advertise their wares and products, and to place themselves in a position where they will be able to compete with the freight rates of foreign steamship companies. It behooves them to begin at once the construction of a merchant marine, so that when the Isthmian Canal is completed they will be well equipped to enter the race for commercial supremacy.

[Photographs of steamships of all the foregoing transportation lines forwarded by the consul may be seen at the Bureau of Manufactures.]

CHILE.

IMPROVED SERVICE ON WEST COAST OF SOUTH AMERICA.

Consul Rea Hanna reports from Iquique that it is stated that the Compañia Sud-Americana de Vapores, and the Pacific Steam Navigation Company have decided to run weekly boats from Valparaiso to Panama on a twelve-day schedule, the two lines to alternate, details of which follow:

Stops will be made in Valparaiso, Coquimbo, Antofagasta, Iquique, Mollendo, Callao, Payta, and Panama. Arrangements are being made with the steamship lines at Colon for direct connections so that the run from Valparaiso to New York will occupy only 17 days, avoiding the usual wait in Panama.

It is expected that this will bring a great part of the traffic from Buenos Aires and the adjacent East Coast over the Andes via Valparaiso to New York, as it will be a quicker trip than on the direct lines.

The distribution of freight will be made by short-run steamers from the centers mentioned. The Pacific Steam Navigation Company is expected to run a freight boat from Guayaquil to Panama, as the liners will stop only at the mouth of the river and just long enough to receive and discharge passengers.

VENEZUELA.

NEW LINE TO BRAZILIAN PORTS WITH EXCLUSIVE PRIVILEGES.

Minister William W. Russell writes from Caracas that a new steamship line is to be established between Venezuelan ports and the Brazilian ports of Belen de Para and Manaos, adding:

For this purpose a contract has been celebrated between the Venezuelan Government and two Brazilians of Manaos. As a protec-

tion to the enterprise the Venezuelan Government grants the concessionaires the exclusive privilege of shipping cattle from any of the ports of Venezuela to the ports of Belen de Para and Manaos. The duration of the contract is two years and in the first six months the concessionaires bind themselves to make at least one trip per month.

ITALY.

DIRECT LINE TO PHILADELPHIA WILL FACILITATE TRAVEL AND COMMERCE.

Consul D. R. Birch, writing under date of March 28 from Genoa, says that the inauguration that week of a freight and passenger steamship service between Italy and Philadelphia brings the latter city in direct touch with Genoa and Naples for the first time in the history of Italian-American commerce. The consul's details follow:

Three sister ships will be put into this service by the company, which up to now has confined its business to the trade between Italy and the River Plata. The three steamers will be entirely new and representative of the latest type of steerage-passenger and cargo boats. Their respective gross tonnage is 8,500.

The first ship started from Genoa on her maiden voyage March 26. It was constructed at Belfast, Ireland. The other two ships will be in readiness for their initial voyages during the month of May, one of them being constructed at Belfast, the other at Glasgow, Scotland. Each of these vessels is equipped with 16 first-class cabins, each accommodating four adults, and with 2,470 berths for steerage passengers. They are capable of maintaining an average speed of 17 knots an hour, but during navigation will be run at about 14 or 15 knots an hour, employing less than twelve days from Naples to New York, and fourteen days from Genoa, the home port of the new line.

TRADE BETWEEN GENOA AND PHILADELPHIA.

Up to the present time the commercial intercourse between this section of Italy and Philadelphia has been spasmodic and of small proportions. The value of the products of this section consigned to Philadelphia houses last year was only $11,440, but it is believed that much of the cargo declared for entry at New York is in reality intended for Philadelphia, and it is one of the chief purposes of the new line to capture this trade. Figures show that the increase in the value of the 1907 imports and exports of Philadelphia was about $25,000,000 over the business of the previous year. The volume of Philadelphia's 1907 external trade was over $150,000,000. These figures have impressed the promoters of the new service with the necessity of endeavoring to secure a portion of this trade.

Although the new line starts at a bad season for emigrant traffic, as, owing to the present industrial crisis in the United States, the movement of Italian laborers toward North America is at a standstill, the first ship is taking 61 steerage passengers from Genoa.

Philadelphia is the only one of the first five United States ports not previously connected with Italy by direct steamship service. It is expected at the Genoa office of the company that Philadelphia exporters to Italy will make direct shipments by the new line, instead of first sending their goods to New York as formerly.

NEW FAST SERVICE TO NEW YORK.

Vice-Consul W. Bayard Cutting, jr., writing under date of March 21, from Milan, tells of another new steamship service between Italy and the United States:

The Lloyd Sabaudo line of steamships announce the first trans-Atlantic trip from Genoa of the steamship Principe di Udine for May 19. This is the fastest ship of the Italian merchant marine, constructed in the most approved style and fitted with all modern comforts. It is advertised to make the voyage from Genoa to New York, including a call at Naples, in the short time of eleven days.

THE NETHERLANDS.

REAPPEARANCE OF OCEAN SAILING VESSELS—IMPROVED SERVICE.

Consul-General S. Listoe makes the following report from Rotterdam on the renewed activity of sailing vessels for ocean freight, and on a new steamship line between New York and Europe:

The assertion has been made that within the past five years sailing vessels have come in vogue again, after having been practically banished from the ocean for many years by the quicker and in many respects more easily controllable steamships. It is claimed that for long distances, when time of delivery is of no particular consequence, heavy cargoes can be transported much cheaper by sail than by steam.

As a curious confirmation of the assertion it may be stated that during the latter part of April two sailing vessels—four-masted barks, each of 2,500 registered tons—left this port for San Francisco, each carrying a cargo of 2,000 tons of German cokes and 500 tons of cliffstone and cement. One more bark took on cargo and two others were chartered for San Francisco, all for the purpose of carrying cokes, cliffstone, and cement.

A NEW NEW YORK TO CONTINENT STEAMSHIP LINE.

A new steamship line called the New York and Continental Line has lately commenced to carry passengers between Rotterdam and New York. The company owning this line has its headquarters in London, and its vessels sail under the British flag. There are three steamships of 3,484, 5,026, and 5,026 registered tons, respectively. They are calculated to carry each about 80 cabin and 1,450 steerage passengers and will leave fortnightly from Hamburg, where they will take on cargo only. Thence the steamers will proceed to Rotterdam, where passengers will be embarked, and from there continue on their way to New York, touching at Halifax, Nova Scotia, for the purpose of landing possible passengers for Canadian territory.

The New York and Continental Company has at present three new 14-knot steamers building in England, and when these are finished it hopes to take its share of the ocean carrying traffic.

Passengers for the United States, embarking at this port—as well as their baggage—are inspected by a consular officer. Including this line, there are now four regular steamship lines carrying passengers from Rotterdam to New York.

SIAM.

NEW LINE TO PLY BETWEEN BANGKOK, SINGAPORE, AND CHINA.

Consul-General John Van A. MacMurray reports that a new steamship company is being formed in Bangkok to enter the trade between Bangkok and Singapore and Chinese ports, the details being as follows:

The new company is composed entirely of Chinese and Siamese; it is now contemplated that no stock will be sold to Europeans. It is to be a limited liability company, with a capital of 3,000,000 ticals ($1,095,000), to be raised by the sale of shares at 10 ticals ($3.65) each. Approximately a third of the shares are now reported to have been sold. It is hoped to increase the capital to 5,000,000 ticals ($1,825,000) within the year.

The promoters [addresses on record at Bureau of Manufactures] have already chartered six Norwegian steamers whose charters with the North German Lloyd expire July 1. These steamers (which are all of approximately 2,000 tons), and two more which the company is seeking to charter in England, will be used with their present European officers until the company secures its own steamers. It is rumored that the company has succeeded in arranging for the purchase of four vessels now under construction and almost completed.

The new company has the support of practically all the fifty or sixty Chinese and Siamese rice mills in Bangkok; each of them has contracted to ship, if requested, as much as 800 piculs (47 tons) of rice per month, in order that there may be, for each outward voyage, a cargo of 30,000 piculs (about 180 tons) if carrying passengers, or of 40,000 piculs (about 240 tons) if not carrying passengers. If adhered to, this agreement would put into the hands of the new company the carrying of almost one-third of the rice export of Siam.

Of the six steamers already arranged for, two will be put upon a schedule of weekly sailings to and from Singapore, and will probably apply for the Siamese mail contract; the other four will make weekly sailings to and from Hongkong and Swatow or Hongkong and Hoihow.

JAVA.

COMBINATION OF NETHERLANDS TRANSPORT LINES.

Consul B. S. Rairden, in forwarding from Batavia a copy of the prospectus of the new Dutch steamship combination, says:

A combination has recently been formed between the Stoomvaart Maatschappij Nederland, Rotterdamsche Lloyds, and Koninklijke Paketvaart Maatschappij, under the name of Naamlooze Vennootschap Nederlandsche Scheepvaart Unie (Netherlands Shipping Union, Limited).

The Stoomvart Maatschappij Nederland of Amsterdam was established in 1870 under Government subsidy and runs a fortnightly mail service between Amsterdam and Java, passengers and mails embarking and landing at Genoa. This company has a fleet of eight passenger steamers of modern construction and a number of freight boats, representing about 80,000 tons.

The Rotterdamsche Lloyds of Rotterdam was established in 1883 under Government subsidy and runs a fortnightly mail service between Rotterdam and Java, passengers and mails embarking and landing at Marseille. This company has a fleet of eight passenger steamers, seven of which are of modern construction, and a number of freight boats, representing about 65,000 tons.

The Koninklijke Paketvaart Maatschappij of Batavia was formed in Amsterdam in 1890 under Government subsidy and has a fleet of forty-two steamers, representing about 67,000 tons, with eight now building of about 2,000 tons each. These steamers trade between different ports in this archipelago, carrying cargo and passengers.

The Koninklijke Paketvaart Maatschappij has the monopoly of the coasting trade, such trade being confined to ships under the Dutch flag.

The Netherlands Shipping Union (Limited) has a capital of $100.-000 4 per cent preferential shares, of which $60,000 is already subscribed for, and $6,000,000 common shares, of which $1,200,000 is already subscribed for.

MOROCCO.

ESTABLISHMENT OF A DIRECT FORTNIGHTLY LINE WITH LONDON.

Consul-General Hoffman Philip reports from Tangier under date of April 11 the following additional transportation facilities between Morocco and Great Britain:

It has lately been announced that the Power Steamship Company, Ltd., of London, England, has established a fortnight steamship service between London and Moroccan ports. In accordance therewith, the Penhurst, of 1,200 tons, arrived in Tangier on April 9, 1908, and sailed thence for Mogador, from which southerly port the return trip to London will be made.

Calls will be made at the principal coast ports for cargo destined for London, on the return voyage. Passengers will also be carried. One of the principal advantages of the new service, it is understood, will lie in the fact that this line will be maintained between London and the Moroccan ports only, whereas that of the other regular British service, the Mersey Steamship Company, includes the Canary Islands and Madeira in its itinerary.

AUSTRALIA.

DIRECT STEAMSHIP SERVICE BETWEEN SAN FRANCISCO AND SYDNEY.

Vice-Consul Charles E. Parkhouse, of Apia, Samoa, reports that arrangements have been completed for a resumption of steamship service between the United States and Australia, which will touch at Samoa. Mr. Parkhouse writes:

An inspector of the Weir Line of steamships informs me that his company will run a four-weekly service each way between San Francisco and Sydney, calling at Apia and Tonga and at Auckland, New Zealand. This should give great impetus to trade between the United States and Samoa, besides helping American trade with the naval station at Tutuila and also with the Tonga Islands. At present

the only regular communication with the outside world enjoyed by Samoa is by two vessels of the Union Steamship Company of New Zealand, which make round trips every four weeks, sailing from Auckland and Sydney, calling at Fiji, Samoa, and Tonga.

Freight rates from San Francisco to Samoa will, I am told, average $[illegible] per ton of 40 cubic feet, exclusive of landing charges, which will be probably about $1 more. The Union Steamship Company's present rate from [illegible] Auckland and Sydney is [illegible] per ton, inclusive of landing charges.

WATERWAYS AND HARBORS.

FRANCE.

NEW FREIGHT SERVICE BETWEEN BORDEAUX AND CETTE.

From Bordeaux [illegible] Murphy reports that there has just been inaugurated [illegible] Compagnie Fluviales de France a new freight service between Bordeaux and Cette by way of Garonne and the Lateral and Midi canals. He adds:

The first boat of the line, named the Bordeaux, is of 150 tons capacity [illegible] paddle wheels at the extreme [illegible] A sister boat, named Cote d'Argent, is now being [illegible] a few weeks.

[illegible] appears to be a practical outcome of the National Congress of Navigation [illegible] during the International Maritime Exposition at Bordeaux, at which there was considerable [illegible] freight communication between Bordeaux and [illegible] canals.

[illegible] as far as Castets, where it takes the [illegible] the Midi Canal to Cette, [illegible] Agen and Toulouse being [illegible]

[illegible] this time as it would seem [illegible] widening and deepening [illegible] Deux Mers, which would [illegible] Mediterranean to the Atlantic [illegible] canals are sim[illegible] craft.

UNITED KINGDOM

[illegible] DOCKS.

[illegible] following information [illegible] from private to Imperial management [illegible]

[illegible] dock facilities up [illegible] the existing [illegible] to the board of [illegible] stock when the [illegible] comprehensive plan [illegible] be inaugurated to [illegible] ports. The bill now before Parliament [illegible] and seven schedules. It

provides for the setting up of a new body, to be known as the Port of London Authority, consisting of fourteen elected and ten appointed members.

The proposed rates on goods will not be restricted to imports. As fixed by the Board of Trade, they will be payable, subject to any exemptions or rebates on "all goods imported from parts beyond the seas or coastwise into the port of London, or exported to parts beyond the seas or coastwise." The dock dues of 37 cents per ton now levied by the London and India Company are to apply to all the docks vested in the port authority, but not to vessels merely passing along the Surrey canal.

Existing city officers of the dock companies, the Thames Conservancy, and the Waterman's Company are to be transferred to the port authority, and to hold office on previous terms, including conditions of pension. Where the office or situation is abolished there is provision for compensation, and any officer or servant dispensed with within five years, except for misconduct, is to be deemed to have suffered loss.

[A copy of the bill now before the British Parliament for the transfer of the port to Imperial management is on file in the Bureau of Manufactures.]

SPAIN.

MACHINERY REQUIRED FOR CANALIZATION OF THE GUADALQUIVER.

Referring to a former report on the subject of irrigation in Andalusia, Consul Louis J. Rosenberg, of Seville, furnishes the following information concerning the further prosecution of this Spanish undertaking:

There is no longer the slightest doubt that the cut at Tablada will be accomplished. There is also every assurance that the project of the canalization of the river will be realized. The cut at Tablada is to open a direct communication between the river, where the wharves are, with the central curve of "Puerto Parra." The total length is 5,864.50 meters (1 meter=1.09 yards), and of a depth varying between 13 and 16 meters, and a width at low tide of 80 to 100 meters. The cut will facilitate navigation along the Guadalquivir, allowing ships of large draft and tonnage to enter and clear.

One syndicate of local landowners has already been formed and the Government has appropriated about $170,000 to commence the work of canalization. The Government will make further appropriations as the work progresses, and more syndicates will be formed later. The present syndicate is to begin on the first 20,000 hectares (1 hectare=2.471 acres). The total boundary of the canal is to be 100,000 hectares. The harbor board expects to make several harbor improvements in the near future.

Considerable machinery will certainly be needed for the canalization of the river, which is a most important undertaking, and also for the various harbor improvements that the harbor board intends to make. It would seem, therefore, that it would be worth while for properly equipped American firms to study the situation here.

American firms desiring to take part in any tender should have proper agents on the ground to represent them. Contracts can not be obtained by correspondence.

CHINA.

PLANS FOR THE EXTENSIVE DREDGING OF THE GRAND CANAL.

Consul-General James W. Ragsdale makes the following report from Tientsin on the dredging and improvement of the Grand Canal of China:

The viceroy of Chihli has memorialized the Throne to the effect that he has received a communication from the board of posts and communications in connection with the proposed dredging of the Grand Canal from Chihli through Shantung to Kiangsu. This is to be done with a view to running steamboats and launches for facilitating communication, and also for the conveying of the mails of the Imperial Chinese post-offices in North China.

The viceroy states that the canal is divided into two parts, viz, Peiyunho and Nanyunho, or North and South canals, which extend about 240 miles. Formerly about 300,000 taels (tael=about 70 cents) were spent every year for the repairing of this canal, which was largely used for transporting the tribute rice from South China to Peking, and even now about 60,000 taels are required for this purpose annually.

As the canal is an important inland waterway connecting South and North China, it will be much better, the viceroy points out, to spend a certain sum of money to dredge it properly, so as to last for many years without yearly repairs. The cost will be borne by the provincial treasuries of Chihli and Shantung if imperial sanction is received.

All the leading Chinese merchants are in favor of the proposed work of dredging of the canal and the building of proper embankments along both banks. It is proposed to do the work with foreign dredgers and the cost is estimated at 600,000 taels. It is now reported that the proposition has been sanctioned by the Government.

OIL FUEL FOR SHIPS.

BRITISH NAVY ADAPTING VESSELS TO THE NEW POWER BASIS.

Consul John L. Griffiths makes the following report from Liverpool on the extending utilization of petroleum for ship propulsion:

The use of oil as fuel has engaged the attention of the British Admiralty for some time, and it has recently been decided to establish oil storage tanks in various parts of the United Kingdom to insure convenient sources of supply. Birkenhead, directly opposite Liverpool, has been selected as one of the supply centers. The experiments conducted by the Admiralty during the past twelve years were not at first satisfactory, and two adverse reports were made prior to 1902. Since then the tests have been of such a character as to reverse the original judgment of the Admiralty, and it may now be said that the importance of oil fuel is recognized by that body, and that its use will be extended in the future as rapidly as possible.

It is claimed that through the use of oil the number of men now required to do the stoking and trimming would be reduced by two-thirds, as the moving and stoking of the oil is automatically accomplished by steam pumps and pipes, instead of by stokers and

trimmers as in the case of coal. While it is difficult with coal fires at full speed to maintain sufficient steam, it has been demonstrated that with oil fuel this difficulty would be overcome, and that when the speed is reduced the boilers are under such perfect control that the safety valves do not lift.

ADVANTAGES OF OIL OVER COAL.

The oil, it is suggested, could be stored in the double bottom, now taken up by water ballast. In the case of the navy, one of the great advantages claimed for oil is the absence of a great volume of black smoke when vessels are proceeding at great speed, and which serves to give information to the enemy. The evaporative value of oil is much greater than that of coal, so that while 45 cubic feet of bunker space is required for a ton of coal, only 38 cubic feet is needed for a ton of oil. It will readily be seen how significant this difference would be to the great ocean-going steamers, and how much space now set apart in them for the storage of coal would be released for cargo purposes and the accommodation of passengers.

The British navy has in service oil-using torpedo boats with a capacity of 34 knots. One of the drawbacks at the present time to the extensive use of oil fuel at sea is the high cost and the difficulty in many instances of securing it. The cost of oil in Great Britain has no doubt seriously interfered with its adoption for steamships and for a variety of industrial purposes. With a reduction in price the field for its employment would be greatly enlarged. The advantages of oil fuel briefly summarized are economy of space, absence of soot and cinders, elimination of the loss of time consumed in burning down and cleaning fires when coal is used, the ease with which oil can be bunkered, and the quickness with which a full head of steam can be generated.

AMERICAN SHIPPING RATES.

AUSTRALIA.

LACK OF NET COST KNOWLEDGE HURTS AMERICAN TRADE.

Consular Agent Asbury Caldwell, of Brisbane, advises that a serious handicap to American trade in that Australian port is the impossibility of ascertaining the freight charges from New York City. As an illustration he cites the following case:

An indent merchant tells me that he has communicated with every one of the four agencies for New York steamers in this city, requesting the rate on a saw milling plant in order that he may be able to quote a price c. i. f. and e. (costs, insurance, freight, and exchange) Brisbane. Although it is possible for him to secure such rates from Great Britain and from Germany, each of these agents have stated that there are no regular rates from New York City, and that they can not supply even an approximate rate, giving a range of from $5 to $12.50 per ton.

It will readily be seen that the Australian importer of American goods must quote, allowing for the higher freight rate, in order to be on the safe side, and that a very small difference in such bids often loses a contract for him, to be given either to the German or British market, which could be saved for the American trade.

GERMANY.

RATES, WEIGHTS, ETC., SHOULD BE THOSE OF COUNTRY OF DESTINATION.

Deputy Consul-General Ulysses J. Bywater, writing from Dresden, calls the attention of American manufacturers desirous of extending their foreign trade to the necessity of giving prices, weights, and measurements in the units of the country in question. He uses the following illustration in that German district:

A very attractive list has been received at this consulate-general from an American bed-manufacturing firm, with descriptions in German and prices in marks, but measurements are given as "cubic measurements 67 x 59 x 36," etc., and "weight 780 pounds." These measurements are totally unknown to the majority of dealers, and the weights given are misleading, as there is a difference in the American and German pound, so that this list is practically useless. Another mistake generally made is that of giving prices as f. o. b. Cincinnati, or any other inland city, instead of f. o. b. New York, etc., or, better still, prices should be quoted c. i. f. Bremen or Hamburg, as the intending purchaser can then correctly calculate the freight.

INTERNATIONAL TRAVELING BUREAU.

NEW CENTRAL ORGANIZATION IN BERLIN FOR SUPPLYING INFORMATION.

Consul William Bardel, of Bamberg, furnishes the following account of a new enterprise in Berlin for furnishing data on traveling:

Under the guidance of a number of traffic organizations, among which are the German, the Dutch, and the Swiss State railroad administrations, there is to be established at Berlin in the near future and on an extensive scale a traveling bureau under the name of Internationales Oeffentliches Verkehrs Bureau (International Public Bureau for Traffic and Travel).

The purpose of this new bureau is to offer the public information, free of charge, upon either verbal or written inquiries on all questions pertaining to travel and traffic. The activity of this bureau is to extend not only all over the German Empire, but inquiries from the world at large are to be promptly answered. The management of the new bureau will be under the care of the head of the largest now existing traveling bureau. A staff of expert officials, some of them State functionaries of the countries interested in the new bureau, will serve under his management. Thus, Bavaria, Saxony, Switzerland, etc., will each delegate to the bureau an official, who not only is to be well versed in all matters pertaining to traveling, but also familiar with his home country. This offers a guarantee that exact and reliable information will be furnished.

The sphere of action of the already existing traveling bureaus is not to be curtailed in any way by the International Bureau, but, on the contrary, the latter is to act in a supplementary, possibly facilitating manner to the old-established traveling bureaus.

The new bureau is to offer the public the opportunity to obtain information whenever they may have a yet uncertain desire to undertake a trip; they can ask months ahead for advice in the matter of destination and time for a journey; also on the subject of suitable

hotels and on sanitary matters. On the other hand, after, by the aid of the International Bureau, their plan for traveling is completed, the traveling bureau is to be applied to for tickets, correct time tables, etc., since the new bureau is to have nothing whatever to do with such matters.

TRANSPORTATION IN CHINA.

BY COOLIES, PACK MULES, DONKEYS, PEKING CARTS, AND MULE LITTERS.

The following information regarding the means of transportation in the interior of China is furnished by Consul Wilbur T. Gracey, of Tsingtau:

Exporters should take into consideration that goods intended for China, if transported from any of the outports or shipping cities, must take one of the following methods, and packages should be prepared accordingly. For the Yangtze River district the overland traffic is greatly supplemented by river transportation, as is also the case in other parts of the Chinese Empire, but all goods imported into China must ultimately come down to one of the modes of transport explained herein.

BURDEN-CARRYING COOLIES.

This is the greatest means of transportation throughout the Empire. A bamboo or wooden pole is slung across the shoulders with a burden attached to each end, or a long pole goes to the shoulders of two coolies, or more, with the parcel hanging halfway between the two. In southern China this is the only means of transport. The climate being hotter in southern China, and the coolies having less strength, not quite so large a load will be carried as in northern China, nor will the distance covered in a day be so great.

A Shantung coolie, carrying a load suspended from the two ends of a pole slung over his shoulder, can carry about 80 catties (106 pounds) or 40 catties (53 pounds) at each end. Packages should be so made that they will, as nearly as possible, approximate this weight. A coolie with a load of 106 pounds can travel about 80 li (27 miles) per day, and costs in Shantung Province approximately 50 cents Mexican (22 cents gold) per day.

Two coolies will carry a load suspended in the middle of a pole slung between them, weighing 160 pounds. They will carry such a package a distance of about 28 miles per day, and cost 22 cents gold per day each. The cost per pound per mile for transportation by this method is, therefore, about the same as when carried singly, but a larger package can be carried.

The best size package for one coolie is about that of a case of kerosene oil, or, say, 12 by 14 by 18 inches. A square or oblong package is usually preferable to any other shape for transportation in China.

TRANSPORTATION BY WHEELBARROWS.

A Chinese wheelbarrow is so arranged that the wheel (which is about 3 feet in diameter) is in the exact center of the barrow, protected by a rough wooden crate, making it necessary to place packages on the two outriders on either side of the crate. Certain sizes of packages are much more adaptable to transportation on these barrows,

and one of the most convenient is the cases in which two tins of kerosene oil are packed. Six of these cases can be packed on either side of a barrow, making twelve cases in all.

A Shantung one-man barrow will carry a load, over the usual Chinese country roads, weighing from 266 to 333 pounds. He can travel with such a load over the average roads in the dry season about 27 miles per day, and costs from 31 cents to 37 cents gold per day. In rainy weather the distance will be somewhat less.

Two men with a wheelbarrow will carry a load of from 533 to 666 pounds. They can travel with this load about 27 miles a day, and cost from 28 cents to 33 cents gold each. Two men with a wheelbarrow to which a small donkey is attached will carry a load of from 800 to 933 pounds and will travel about 27 miles a day.

PACK MULES, DONKEYS, AND PEKING CARTS.

A large pack mule can carry a load of from 400 to 466 pounds. It can travel about 33 miles a day and costs 33 cents gold a day. A donkey with a pack can carry a load of from 266 to 333 pounds, can travel about 33 miles a day, and costs 28 cents gold per day.

A large Peking cart with one large mule can carry a load of from 533 to 666 pounds, and can travel with such a load 33 miles per day, at a cost of 75 cents gold per day.

A cart with two large mules can carry a load of from 1,200 to 1,333 pounds, and will travel 40 miles, at a cost of from 83 cents to $1.40 gold per day. A cart with three large mules can carry a load of from 1,333 to 1,860 pounds, and can travel 40 miles, at a cost of from $1.40 to $1.86 gold per day.

A cart with four large mules will carry a load of from 2,000 to 2,666 pounds, and will travel 40 miles a day, at a cost of from $1.86 to $2.33 gold per day.

Mule litters are also used to a considerable extent throughout Shantung, but practically never carry cargo, except such luggage as may be accompanying their passenger. They will carry one or two passengers, or three on occasions, and can travel about 40 miles a day, at a cost of from $1.40 to $1.86 gold per day.

FOODSTUFFS.

MARKETS FOR COMESTIBLES.

ITALY.

GROWING DEMAND FOR AMERICAN LARD, SAUSAGES, AND FISH PRODUCTS.

Consul James E. Dunning, of Milan, forwards the following report, made by Clerk Siersdorfer of the consulate on the lard, sausage, and prepared fish product trade in Italy:

The Italian demand for lard, sausages, mackerel, herrings, and canned and barreled sardines is constantly increasing. Imports from the United States have doubled in recent years and an even more rapid increase is predicted for the future. An important local dealer stated to the consulate that he could easily do a $200,000 annual business with the American lines mentioned.

All the lard imported into Italy comes from the United States. No other country attempts to export it, and native manufacturers can not turn out lard to compete with that from America in price or quality in their own market. Thus, as far as lard is concerned, the American manufacturer has a perfectly clear way in Italy. The increase of exports from the United States is entirely due to the change in attitude of the Italian public toward the American lard. Up to a few years ago lard manufactured in the United States was thought to be prepared only to sell and that purity was disregarded by the American manufacturers. This feeling does not exist now, and the opportunity for American lard in Italy is rapidly extending.

SAUSAGE AND FISH GOODS.

In regard to sausages, mackerel, herrings, and canned and barreled sardines, there is undoubtedly a good field for American stock, as the Italian demand is constantly increasing, and the largest part of it continues to be furnished by imported supplies on account of the inability of native firms to compete. The bulk of the sausage imported comes from the United States and Servia, the larger quantity from the latter. American manufacturers could increase these exports by more exploitation.

Italy's mackerel imports are large and steadily increasing, coming from the United States, England, Norway, France, and Canada, the largest quantity coming from England. Practically no mackerel is exported from Italy.

At present all the herrings sold in Italy are imported from England. This is an important part of the trade for the American manufacturer to study.

All the canned and barreled sardines imported come from Spain, Portugal, and France, the largest amount coming from the first named. Italy has exported small quantities of sardines prepared in oil, but these exports are rapidly decreasing. Imports of dried

sardines are falling off rapidly, the canned sardines being preferred. There seems to be a good opportunity for the American manufacturer to introduce standard quality canned sardines prepared in oil, in which a profitable business could undoubtedly be done.

A small amount of fresh fish is imported into Italy, whereas a comparatively large amount of salted fish is imported, coming from England, southern European countries, and the northern coast of Africa. Spain is Italy's largest supply source of this kind of fish. These imports show a falling off in recent years, which is due to the progress and growth of late of Italian fisheries.

THE WAY TO EXPLOIT.

Evidently the most profitable way for the American firm to exploit these goods on the Italian market is to send a thoroughly experienced traveling salesman to Italy, familiar with Italian or French. The salesman should "drum up" well the wholesalers in the principal cities of Italy. The salesman should come once or twice a year, which will enable him to keep in close touch with the trade. If necessary the traveler should visit the retail dealers with some one attached to the wholesaler's establishment and show him the American way of "drumming up" the retail trade. It should be explained to the jobber that he will receive the usual percentage on the orders booked in this way, which will help to enthuse him. If the traveler notices that the goods stay on the shop shelves longer than necessary he can dispose of the jobber's man, telling him what he intends to do, and get a list of the shop's customers, take some one from the shop with him and visit each customer, thus doing house-to-house canvassing. Samples should be shown and it would be a good idea for the salesman to distribute small "catchy" advertisement articles. It should be explained to the shopkeeper that he will receive the usual percentage on all orders booked in this way, which will undoubtedly have the same effect on him as on the jobber.

While selling the goods in this way the salesman can get at the "ins and outs" of the trade which he or the firm that he represents would never have become acquainted with if they had intrusted everything to the jobber and shopkeeper. The salesman will always be able to advise the jobber what qualities of goods to buy for certain districts of the city. After this system is thoroughly carried out and is repeated once or twice a year and profit is made, the jobber can be well supplied with advertising matter, which the salesman can see is distributed to all the shops in each city. Later a large amount of advertising can be done by the firm.

LISTS OF DEALERS—TARIFF RATES.

If the American firm can not conveniently send a salesman to Italy the parties whose names and addresses are given in the list accompanying this report should be written to and be sent catalogues, price lists, etc. [The list includes dealers in Milan, Genoa, Rome, Naples, Palermo, Florence, and Turin, and may be secured from the Bureau of Manufactures.] These parties are willing to import American lines as mentioned in this report. Business can be done in this way, but American firms are urged to send a salesman, as the field seems important enough to repay this extra expense in the long run. One large American manufacturer recently attempted the above-explained

system of placing stock in Italy, and is at present reaping good profit in the Italian market.

Lard pays $1.93 per 220 pounds duty, entering Italy. Sausages pay $4.83 per 220 pounds duty, entering.

Fish products pay the following duties entering Italy, per quintal or 220 pounds:

Article.	Per quintal.
Smoked and dried fish	$0.97
Salted fish	1.16
Pickled fish or fish prepared in oil, in cans, excluding sardines and anchovies	4.83
Canned sardines and anchovies, in oil and pickled	2.90
Canned sardines and anchovies, prepared in other ways	5.79
Pickled fish, in oil, in barrels, excluding horse mackerel, sardines, and anchovies	4.83

UNITED KINGDOM.

DECLINE IN SHIPMENTS OF CANNED FRUIT FROM THE UNITED STATES.

Consul John L. Griffiths, of Liverpool, in reporting that there has been a decided falling off in the importation of canned fruits from the United States into England during the last two years, gives the following particulars:

The shipment of apricots, pears, and peaches in 1906, for example, aggregated 273,000 cases, while in 1907 only 161,000 cases were imported. This great deficiency naturally increased prices and lessened the demand. The unfavorable weather conditions for fruit growing in the United States in 1907 partially accounted for the decreased shipments. As the importation of apricots and peaches from the United States declined, there was a proportionate increase in the shipments from Spain and Portugal, where the fruit was of excellent quality. No pears, however, are shipped from these last-named countries to England.

During the past four years the prices of California canned fruit have advanced about 25 per cent. This has resulted in the extension of the fruit trade between England and Spain and Italy, which countries have the advantage of the United States in the item of cheap labor.

ITALIAN TOMATOES SUPPLANTING AMERICAN.

Tomatoes are imported in increasing quantities each year from Italy. The quality of these tomatoes is stated to be good and the prices low. Large quantities of canned tomatoes are also shipped now each season from Italy to the eastern part of the United States, and the American shipments to this market are much smaller than formerly. It is suggested by one of the leading importers in Liverpool that the American tomatoes are frequently packed before they are fully ripe, and that this practice renders them undesirable for use. The Italian tomatoes are carefully selected, and are only packed after they have attained a ripe and rich color. If the American packers desire to increase their shipments of tomatoes to this country, they must exercise the greatest care in their selection and preparation for the English market.

Canned apples are being imported in increased quantities from Canada and are sold at successfully competitive prices with American apples. California apples packed in cases seem to improve each

year, and the English demand for them is increasing, owing to the fine condition of the fruit and the excellent manner of packing. Last year the sale of California apples in this country exceeded the sales of any previous year, and the testimony of all the fruit importers in Liverpool is that these apples are almost invariably fairly and properly graded, that the smaller apples are packed separately, and that the cases are so branded that the markings indicate the quality of the fruit. There is no doubt that if greater care were shown in the selection, grading, and packing of American fruits there would be a gratifying increase in the English demand.

BELGIUM.

LARGE IMPORTATIONS OF EGGS—SHIPMENTS TO OTHER COUNTRIES.

From statistics just published Consul W. P. Atwell, of Ghent, states that the total number of eggs imported into Belgium during the year 1907 was 219,000,000, particulars of which follow:

The greater quantity of eggs came from Italy. Through strenuous efforts on the part of native poultry raisers the imports from Italy have now considerably decreased. During the first two months of 1906 Italy exported to Belgium 6,060,000 eggs, while in 1907 these figures decreased to 4,144,000, to fall in 1908 to 3,890,000. Germany held second position, as regards the years 1906–7, but in the first two months of 1908 a complete change took place, Holland taking second place, with a total of 2,174,746 eggs, against 1,984,000 the same period of the previous year.

During the month of February, 1908, alone the total number of eggs imported from Holland was 1,685,000, while statistics for Germany only show 205,000. During the same month Italy exported to Belgium a total of 1,702,000 eggs. Other countries exporting eggs in less quantities to Belgium were Russia, Austria-Hungary, and Bulgaria. The importations from the last named are increasing from year to year.

Statistics pertaining to the exportation of eggs from Belgium, considered of native production, show that the total number exported during the year 1907 was 129,296,000, the principal importing countries being France and England. During the first two months of 1908 the total number exported from Belgium to France was 13,156,000, while the number sent to England during the same period was 5,152,000.

SPAIN.

IMPORTS AND EXTENSIVE CONSUMPTION OF CHICK-PEAS.

Consul-General Benjamin H. Ridgely, of Barcelona, furnishes the following information concerning the leading place occupied by the chick-pea as a foodstuff of the Spanish people:

Chick-peas enter into the daily dietary of nearly every household in Spain, forming as they do the chief ingredient in the Spanish national dish "cocido," also known as "olla podrida" and "puchero." It is the delight of the rich, as well as of the poor in Spain; in short, next to bread, it is the staff of life. It is not, therefore, surprising

that Spain is the principal country in which chick-peas are produced and consumed; but what is not generally known is that, in spite of the favorable climate and suitable soil, the home production does not quite half supply the consumption. This is said to be due to the fact that the cultivation of chick-peas is rather difficult and is very little understood by the majority of Spanish farmers. During the last three years there has been a decrease in production, made up by an increase in importation, through which many mercantile houses have been great gainers.

Mexican chick-peas, which most resemble the Spanish product, have been consumed in surprising quantities in this district during the last few years, and they have even been bought for sowing purposes.

In the 10 Castilian provinces (without including Logrono, where there is no cultivation) 143,992 acres of land, irrigated and non-irrigated, were sown to chick-peas in 1907.

SWEDEN.

MEAT IMPORTS AT GOTHENBURG—OBJECTIONABLE CHEMICALS.

Consul W. Henry Robertson quotes, for the information of American exporters of meat, a part of an article published in a Swedish paper about the import and consumption of meat in Gothenburg during the year 1907. He quotes a statement concerning the import of meat as follows:

Of salted meat of neat cattle, 763 barrels were imported, chiefly from America; of salted mutton, 589 barrels, chiefly from America and Iceland; and of salted horse meat, 46 barrels, chiefly from Denmark and England. Besides the above mentioned there arrived also 11 barrels of horse meat from elsewhere in Europe preserved with acetates, and 10 barrels of American mutton preserved with boric acid, and these lots of meat were, in accordance with the poison law, refused entry and had to be reexported, as well as 2 barrels of tainted American mutton.

Previous reference has been made in reports from this consulate as to the limitation of the use of chemicals as preservatives for food products in Sweden, among which boric acid has been especially mentioned.

SALVADOR.

MEATS, GROCERIES, CANNED GOODS, AND BREAKFAST FOODS.

In transmitting the following report, Consul-General Samuel E. Magill, of San Salvador, says that American exporters of preserves, meats, cheese, crackers, biscuits, etc., in tins, porcelain, glass, or other coverings, should remember that such goods spoil quickly in the climate of Salvador, unless hermetically sealed, and packed so that such sealing will not be disturbed in transit:

Grocery stores and butcher shops, as conducted in the United States, do not exist in Salvador, the supplies for the home table and the restaurant being purchased daily from a central market, where stalls or stands, conducted by women, carry stocks of vegetables, meats, poultry, eggs, fish, fruits, etc., received daily from the surrounding country, and daily sold to the cooks. No provision being made in

these stands for refrigeration, and few homes being furnished with ice chests, a fresh supply of food daily is necessary.

The mass of the people here live on corn and beans, prepared in various forms, together with the cheaper grades of meat; the wealthier homes are supplied bountifully with better meat—beef, tongue, pork, mutton, rabbit, chicken, and pigeon—and with some vegetables and fruit.

LIMITED DEMAND FOR CERTAIN ARTICLES.

Cereals prepared in the various forms so well known and so largely used for breakfast foods in the United States are little seen here, and would be difficult to introduce, for it is the local custom to take only coffee and bread, sometimes eggs and fruit, for breakfast.

Sugar and coffee are produced here, but China supplies tea. Dried fruits, flour, flavoring extracts, baking powder, nuts, and raisins come from the United States.

Vegetables and fruits being grown here in great variety and obtainable practically all the year round, there is but a small market in Salvador for canned goods, and the demand for such things as meats, fruits, oysters, jellies, etc., in cans or bottles, is further limited by the heavy import duty charged on such merchandise. Only three houses of importance carry canned goods and preserves and these only carry them as side lines. [Names of these firms filed in the Bureau of Manufactures.]

Salmon, oysters, and an occasional breakfast food come from the United States; soups and jams and cheap candies from England; olives, peas, asparagus, pickles, mustard, cheese, capon, mushrooms, plums, and fruits generally from France. The bulk of this class of merchandise is bought in France.

CANADA.

DEMAND EXISTS FOR FIRST-CLASS AMERICAN MEAT PRODUCTS.

In the Kingston and adjoining Canadian districts Consul H. D. Van Sant states that the market for American lard, hams, and bacon, and for high-class Western canned meats and poultry could be increased. The consul's market particulars follow:

Canned goods and California fruits could also be brought into more general use. While the Canadian production in these lines is growing better each year, owing to improved methods, the American article still leads and the advantage of milder climate and more extensive and superior methods of culture and canning has not yet been overcome. The superiority of our high-class and newly inspected canned goods is admitted, and with a little more effort American exporters could increase or reestablish sales in this line. The exposures of several years ago injured the sale of canned meats at the time, but since then the United States inspection law has resulted in the canning of superior goods, and if this new line is introduced it will command a large sale.

The writer has frequently heard the wish expressed for American canned goods. The old stock has dwindled and the new stock on hand is largely local, while many Canadian buyers ask for American

brands. Detroit and Western lard shipped here last winter commanded a quick sale, and American dealers in the mentioned lines would do well to look after this market another season. Only the best and properly inspected article should be sent. Inferior and second-grade products injure prestige and sales.

ALGERIA.

LACK OF CHOICE FRESH MEAT AFFORDS MARKET FOR CANNED FOODS.

Consul James Johnston, of Algiers, makes the following report on the prospective market for American preserved foods in Algeria:

There has been no great consumption of canned foods in Algeria, mainly owing to the fact that this class of provisions has never been properly placed before the public, and no attempt appears to have been made to develop the trade. Algeria should be a fair market. Fresh-killed meat of good quality, especially during the summer months, is not easily had, and is kept fresh with great difficulty. Such being the case, canned meats should and would be a popular and welcome substitute, and no doubt a ready sale would ensue were the goods properly exhibited and their advantages demonstrated.

In advertising matter it would be well to impress the fact that all such products pass under government inspection, which would diminish to a great extent the effects of the recent scare, the matter having been so greatly exaggerated in many newspapers. It is impossible to obtain any reliable figures as to the importations of American canned foods into the Algerian market, as most of this class of goods is shipped here through the Continental depots, the quantity shipped direct being insignificant. [A list of persons handling such goods, forwarded by the consul, is filed with the Bureau of Manufactures.]

BRITISH FLOUR PURCHASES.

SITUATION OF AMERICAN-MILLED ARTICLE IN ISLAND'S MARKETS.

Special Agent M. H. Davis has made a preliminary investigation of the British flour trade and contributes from London the following general review of the position of American flour in the United Kingdom:

The statistical position in respect to wheat and wheat flour for the United Kingdom of Great Britain and Ireland is substantially as follows:

The annual consumption of wheat flour is generally conceded to be about 42,000,000 sacks of 280 pounds each, equaling 60,000,000 barrels of 196 pounds each. Of this quantity, there has been imported annually of late years wheat flour equal to 7,860,000 barrels. The United States in recent years, 1906 and 1907, has supplied annually about 5,500,000 barrels of the United Kingdom's imports, the remaining requirement, say, 2,400,000 barrels, coming principally from Canada and Australia, a relatively small part being furnished by France and Hungary. Dating back some eight years and covering a period of ten years previously, the imports were much larger than for the past four years, reaching as high as 13,200,000 barrels, when the mills of the United States supplied fully four-fifths of the

requirement, according to the opinion of the older importers of flour, who deplore the falling off of flour imports and the decline of imports from the United States, now but about one-half of their one-time quantity.

VARIOUS CONTRIBUTING CAUSES.

The causes leading up to this decline in exports of the United States to the United Kingdom are many, and in subsequent reports I hope to go into details as the information develops, being already convinced from what I have thus far learned that it is possible to restore in great measure the lost trade.

The more important causes responsible for decreased trade are seven in number, and they must be presented here and thoughtfully considered by American millers in so far as their action may suggest remedies, if the business of the past is to be regained. These seven causes appear from the investigation so far conducted, and attention is drawn to them now, that the millers themselves may give them consideration at their general convention, to be held in Detroit the second week in June.

In the first place, there is the increased productive capacity and large financial resources of the millers of the United Kingdom. An important bearing is the active campaign constantly carried on of late by many of these mills to educate the British consumer to the use of home-milled flour. That no similar work or advertising effort seems to be carried on by American mills is a grave oversight or neglect. The size of the British miller's pocketbook, his keen desire for more business, and his location are all powerful factors. If Great Britain produced enough wheat and of the proper quality, the competition between the British and the American miller would be disastrous for the latter. Fortunately for him, however, the miller of the United States has the advantage of location in respect of quality and quantity of the raw material. The British miller has less than one-fourth of the home requirement grown on home soil.

BRITISH WHEAT—AMERICANS INACTIVE.

The quality of this home wheat production is not all that might be desired for best results. However, such advantages as the British miller has he is now making the utmost of by his continuous system of advertising and pushing methods for placing his goods with buyers, whereas a few years ago the situation was exactly reversed, when the American miller was the pushing, active factor in the trade. I hear it often stated that the British miller has at last awakened to his possibilities; he is certainly making the best of them just now. While this subject will be discussed in a later report, it is essential now that American mills be advised as to the apparent effect of less active work on their part and urged to bring the natural remedy into the case as soon as possible by concerted or individual effort.

A second consideration is the custom for many years past on the part of the American railroads and Atlantic steamship companies of making freight rates lower on wheat, or the millers' raw material, than on flour, his finished product. If the American miller had no competition abroad, this practice might be permissible, but in view of the excellent mills in countries other than our own it must be ap-

parent that lower rates on wheat than on flour simply arm competing foreign mills with cheap wheat wherewith to beat down the price of American flour abroad and thus displace it. Where the bulk of a finished product is the same as the raw material, as in the case of flour and wheat, it seems to me that good public policy would suggest, in the case of a surplus crop, as wheat in the United States always is, that the finished goods rather than the raw material should be moved to the seaboard at such discrimination in rates favorable to the finished product as would overcome the arbitrary difference in rates established by the foreign-owned steamship companies now controlling the ocean carrying trade.

EFFECT OF BAD WHEAT CROP, DURUM RAISING, ETC.

A third cause contributing largely to loss of flour trade in Great Britain came at the critical time when British millers were awakening to what they might do. It came in the shape of a partial failure in 1904 of the wheat crop of the United States. Other countries were more favored than the United States as to quality of wheat, and the subsequent twelve months from the harvest saw the British miller more firmly intrenched than before. Promised protective measures in the United Kingdom's fiscal policy had encouraged extended remodeling and building of home mills, and it was unfortunate and harmful to American milling interests that an inferior crop of wheat should appear at this particular time as a special handicap. The unfavorable results of that crop still exist.

Fourth, it may be stated that the introduction and large production of an inferior wheat in the Northwest, known as macaroni or durum wheat, has had much to do with loss of trade in American flour. To a considerable extent the confidence of foreign buyers has been shaken by the thought that possibly a considerable percentage of this durum wheat might find its way into our flour. So far it has not appeared to any marked extent, but the fear is upon the buyers and every means to reassure them should be taken by exporting mills.

MILLING METHODS—TRANSPORTATION DIFFICULTIES.

As a fifth contributing cause the methods of some mills are such as to reflect discredit on all, or at least to destroy confidence in the high standard of excellence that for many years characterized American flour. A lowering of specific qualities in some instances and false branding have made great "talking points" for those striving to displace American flour.

A sixth element has been the irregular arrivals and delays in transit. These features, well known to American millers, still prevail to vex and embarrass the flour importer; and not quite all has been done that can be done by the miller to overcome the bad results that are sure to follow such recurring disappointment as comes from delayed shipments.

Seventh, the political status here as relates to possible tariff changes in Great Britain is influential in restricting our flour trade to a greater extent than is generally understood. It may be put down as one of the potential factors with which we have to deal. Should the British nation amend its tariff laws on the protective lines being urged, the American mills would be at great disadvantage unless some form of

reciprocity could be provided by adequate action of the Congress of the United States.

It is my intention to take up in subsequent reports, for detailed discussion or explanation, each of the foregoing seven causes contributing to the lessened trade in flour. Several of them require further research.

EXPORT STATISTICS.

Commerce and Navigation returns show the following exportations of wheat flour and wheat from the United States to the United Kingdom for the fiscal years stated:

Year.	Wheat flour.	Wheat.	Year.	Wheat flour.	Wheat.
	Barrels.	*Bushels.*		*Barrels.*	*Bushels.*
1891	7,037,420	29,820,650	1900	10,257,028	62,774,870
1892	9,603,910	67,293,960	1901	10,854,573	78,574,752
1893	10,361,680	72,513,134	1902	9,059,722	77,544,418
1894	9,987,179	50,868,680	1903	9,835,386	47,590,161
1895	8,825,277	54,373,341	1904	8,673,943	23,589,371
1896	8,211,236	43,648,077	1905	2,455,667	3,907,152
1897	8,256,630	55,742,689	1906	5,366,679	15,457,639
1898	9,132,465	80,163,805	1907	5,356,024	26,129,346
1899	10,253,360	74,613,304	1908 [a]	5,079,987	38,681,444

[a] First ten months ending April 30.

Other wheat preparations exported to Great Britain have also declined; "preparations of breadstuffs for table food" (breakfast articles mostly made from wheat) were valued at $1,046,496 in 1898, $1,390,281 in 1900, $1,281,967 in 1903, $884,771 in 1904, $752,992 in 1905, $730,333 in 1906, and $556,363 in 1907.

[A list of firms who are members of the London Flour Trade Association, also lists of flour importers at Liverpool, Glasgow, Manchester, and Belfast, may be secured from the Bureau of Manufactures.]

COFFEE AND TEA.

BRAZIL.

LONDON COMPANIES SUBSIDIZED TO EXTEND BRITISH COFFEE SALES.

Consul-General George E. Anderson, writing from Rio de Janeiro, March 24, gives the following account of the latest effort of a Brazilian State to enlarge the market for coffee:

A contract has been signed between the government of the State of Sao Paulo and two London firms whereby the latter are to undertake a propaganda for the use of Sao Paulo coffee in the United Kingdom covering five years and the government of the State is to pay the firms, for that purpose, a subsidy covering five years, amounting in all to $250,000, and to grant to them certain privileges of trade value which practically increases this subsidy. By the terms of the contract the two firms undertake to form a company in England with a capital of £52,500 ($255,491), covering 50,000 preference shares of £1 each and 50,000 ordinary shares of 1 shilling each; 5,000 preference shares are to be sold to Sao Paulo planters and the rest divided between the two firms, such shares to have preference in dividends up to 7 per cent per annum and in the capital.

This company is to establish a propaganda of Sao Paulo coffee in Great Britain, which after two years may be extended to all British colonies and Egypt. It is to place on the market two grades of Brazilian coffee, one a well-roasted grade of American types 3, 4, and 5 more or less, and the other types 7 and 8 more or less. The coffee is to be sold to the public at the lowest possible rate so as to interest the working classes. The sale price shall be fixed by the company. The goods are to be sold under trade-marks which are to be controlled by the government, which also will control the quality of the coffee sold. The trade-marks are to be the property of the government until the end of the five years, after which they will belong to the selling company, which will at that time assume responsibility for the quality of the goods sold. The coffee shall be sold either green or roasted and the packages shall bear the stamp of the government, and the company shall have the right during the continuance of the contract to style itself the "Official Agent of the State of Sao Paulo."

NO PROSPECT OF REDUCING PRODUCTION OF COFFEE.

The contract and the course of the State government are generally looked upon with approval by coffee men in the Brazilian trade. There seems to be no prospect of any diminution in the production of the berry and the only way to dispose of it profitably appears to be by stimulating consumption. Many persons familiar with what has been accomplished in the United States by advertisers handling substitutes for coffee believe that an active advertising campaign in the United States would solve many of the present troubles. The Sao Paulo government has believed that with proper advertising and presentation of their product the people of Great Britain as a mass will use as much coffee as the people of the United States. The contract just signed is based upon their belief.

In the meanwhile there seems to be no break in the increasing supply of coffee for the world's consumption, with prospects for a very large crop next year. The entries of coffee in Brazil up to March 20, this year, were 9,225,851 bags as compared with 15,913,914 at the same date in 1907, 8,889,758 in 1906, 9,087,835 in 1905, and 9,378,127 in 1904. The entries so far this year are therefore greater than the average for three years previous to the banner crop of last year. Coffee is coming down from the interior of Sao Paulo at the rate of 16,000 bags per day, indicating a considerable supply yet to be entered.

COFFEE SHIPMENTS TO UNITED STATES.

NUMBER OF INVOICES INCREASING—OPENING NEW TRADE CHANNELS.

Consul-General Anderson also shows the following trade changes in the Brazilian coffee traffic with this country:

A turn in the export of Brazilian coffee to the United States which may be of special interest to the coffee trade is represented by the fact that the steamer Sergipe, sailing from Rio de Janeiro on March 28, took 10,000 bags of coffee to Charleston, S. C., the shipment being reported as the beginning of a regular coffee trade to that port. Heretofore the $60,000,000 and more worth of coffee going from Brazilian to American ports annually has gone either to New York or to New Orleans. There has been some movement of lumber and

naval stores out of some of the southern ports of the United States to Brazilian ports from time to time, but practically no steamer shipments from Brazil to such ports. The shipment is also interesting in view of the decadence of the old-time trade of Baltimore with Brazil.

In shipments of coffee from Brazil to the United States there is becoming more and more manifest a disposition to break away from the old lines of the trade. The number of small invoices to widely-scattered houses is increasing.

BRITISH INDIA.

DECREASE IN BRITISH TEA TRADE—FOREIGN SALES PROPAGANDA.

Consul-General William H. Michael sends the following report from Calcutta on the exportation of tea from British India:

The quantity of tea entered for export to the United Kingdom during the first half of March, 1908, was 368,499 pounds of black tea and no green tea. During the same period last year the amount of black tea exported to the United Kingdom was 1,113,166 pounds, which shows a great falling off for this season. The total amount of tea shipped from April 1, 1907, to March 15, 1908, was 160,880,128 pounds, of which Calcutta shipped black tea amounting to 117,900,460 pounds, green tea 57,917 pounds, while Chittagong shipped 42,414,803 pounds of black and 506,948 pounds of green tea. This is a decrease of 6,996,188 as compared with shipments from April 1, 1906, to March 15, 1907.

At the half-yearly meeting of the Indian Tea Cess Committee it was resolved to continue the existing arrangement for advertising in the United States jointly with Ceylon, and the sum of $34,285 was voted for this purpose. The total to be contributed by India and Ceylon for the purpose indicated is $60,000. The committee also decided to maintain the separate India advertising fund which they started in the United States during 1905 and to allot to it a further sum of $20,000. To maintain and to extend the scheme which is in progress for pushing Indian tea in Belgium and Germany $25,000 was voted. An Indian tea house is to be opened in Berlin shortly. The committee likewise agreed to continue the green tea bonus at the rate of 1 cent per pound on 2,000,000 pounds of green tea to be manufactured during the coming season. With the object of assisting the Indian section of the Franco-British exhibition, which will shortly open in London, the committee agreed to set aside $3,750, and they also empowered the executive committee to expend at their discretion $2,500 on the work in India and Tibet.

SUMATRA.

GOVERNMENT RESTRICTIONS UPON PADANG COFFEE GROWERS REMOVED.

Vice-Consul-General George E. Chamberlin, of Singapore, reports that on March 1 the following important change in the sales of coffee at Padang, in West Sumatra, came into force:

Hitherto the Malay inhabitants of the land had been compelled to sell to the government, at a fixed price, all the coffee grown by them.

The government then auctioned the coffee at Padang, and the proceeds furnished an important item of revenue. The cultivators are now no longer bound to follow that delivery system. As the well-known Padang coffee auctions have been done away with, the growers can sell their coffee to any buyers. Growers may, if they choose, still go on delivering their coffee to the government storehouses at a special price, this measure being taken to prevent traders from combining to force down the price.

Sumatra coffee has long enjoyed a high reputation in the market, and formerly sold at high prices at the periodical auctions at Padang, chiefly for export to the United States. The growers have now the opportunity to sell a product sure of a brisk demand, with prices kept up by keen competition.

WORLD'S COFFEE CONSUMPTION.

OVER TWO-FIFTHS OF THE TOTAL TAKEN BY THE UNITED STATES.

Consul James E. Dunning, of Milan, reports that, according to statistics published in a leading coffee-trade journal, the world's consumption of coffee in 1907 amounted to 16,825,000 sacks, of which 6,980,000 sacks were consumed in the United States, 3,050,000 sacks in Germany, 1,625,000 sacks in France, leaving 5,170,000 for consumption in all other countries. The consul adds that the consumption of coffee in Italy is only 1.44 pounds per capita.

FRUITS.

UNITED KINGDOM.

CLEVER ADVERTISING TO POPULARIZE BANANAS, ORANGES, AND APPLES.

Consul J. Perry Worden, in reporting that Americans may considerably increase their trade in American fruit in Bristol, adds that if they are to do so they must push their representation more vigorously by personal agency, and especially by attractive, effective advertising. The consul's report continues:

The store windows here are bright with lithograph signs of Jamaica and Canadian fruit shipments, but very few American placards are anywhere to be seen, although considerable American fruit is regularly brought into this port. How effective such advertising may be is seen in the fact that one of the leading dealers, pointing to some clever pictures of Jamaica bananas and some very artistic cards of California seedless (navel) oranges, declared to me to-day that he can sell fruit at a cent a pound more, and twice as much of it, if his display be accompanied with attractive placards.

In general, it may be said that if one were to judge by the prevalence of such card advertising as "Canadian apples," "Canadian fruit," one would imagine that no fruit reached this market from the United States. The reason for the illusion is easily discovered, as Canadian shippers send plain and beautifully illustrated placards with nearly every consignment, while the American shippers send little or no advertising matter. The result is that the passer-by or

possible purchaser is misled as to the quantity of fruit imported from the United States. American apples in particular are very popular here, especially in the early season, and the sale of California oranges, particularly the seedless variety, is steadily on the increase.

PICTORIAL PLACARDS.

A good illustration of the value of this pictorial advertising is found in the service rendered the Jamaica banana industry by the lithographed card. In touring England in 1892 and 1895 the writer noticed the scarcity of tropical fruit here, and it was only some four years ago that the Jamaica banana importers entered on their campaign for the market of England. Then it was that suddenly a branch was opened in Bristol, hundreds of windows and billboards were placarded with bright-colored posters showing the cultivation and collection of bananas in their native environment, signs were carried about the streets, and the yellow fruit was sold for whatever it would bring. Bristol took to bananas, and the leading merchants here state that within two months the Jamaica banana trade had firmly established itself in this city, and by its ever changing and attractive placards, and better fruit, has held its own ever since.

Another illustration of the possibilities of advertising fruit is found in the hundreds of placards recommending Valencia oranges for influenza. Owing to an epidemic of this disease in Bristol of late, and the clever placards of Spanish fruit, the sale of Valencia oranges has advanced over 500 per cent so suddenly that dealers have scarcely been able to meet the demand.

ADVERTISING AMERICAN FRUITS.

It is evident, therefore, that if Americans wish to increase the sale of American fruit in Bristol and other parts of England, or even hold their share in the fruit market here, they must meet the conditions created by other competitors and the ever greater demand by the English public for illustrated periodicals and advertising. One very artistic placard, showing some California seedless oranges with the legend "The Aristocrat of the Orange World," has nearly doubled the sale of California oranges here, and if American shippers would give more attention to the supplying of such advertising matter there is no doubt that the traffic in their fruit would greatly increase.

The English are natural travelers, and an appeal to their imagination is scarcely ever in vain; hence placards showing the orange plantations, apple orchards, etc., should be as effective as pictures of banana groves. During the latter part of April some of the finest apples ever sold here were brought from Oregon and quickly disposed of at fancy prices. Had these apples been accompanied by an illustrated placard or two, giving some idea of the life in that distant northwestern State, the name "Oregon" would have been more indelibly stamped on the mind of the apple buyers. A clever sentiment on such cards would add much to their force, and if the price can be stated distinctly and neatly, it would be well to add that to the lettering.

It may be added that several of the placards displayed here have been made by English printers and lithographers, apparently at the order of the local importing agents.

CANADA.

METHODS OF GROWING FIGS IN THE PROVINCE OF ONTARIO.

Consul A. G. Seyfert, of Collingwood, reports that the culture of figs has proved successful in the Canadian province of Ontario. He says:

The Niagara peninsula, that part of Ontario west of the Niagara River to the western end of Lake Ontario, is well known as one of the finest fruit-growing sections in the province, if not in Canada, but it may surprise many to learn that fig culture has been successfully conducted near Niagara on the Lake for the last forty years. The climate of this section of the peninsula appears peculiarly suited for the culture of figs. The open waters of Lake Ontario and the Niagara River modify the temperature greatly, and the usually comparatively mild winter, as compared with the same latitude elsewhere, followed by a backward spring—caused by the ice coming down the river from the upper lake—and the dry and warm summer, produce an ideal climate for all kinds of fruit, especially figs.

The fig is a native of subtropical countries, and is almost unknown in central North America in its fresh state. The theory is that figs will succeed in any country where peaches and apricots do well without protection, if the fig plant receives proper winter protection. The fig growers of the Niagara district protect their plants in the following manner during the winter:

As soon as the leaves have fallen and sharp frosts set in, two or three of the branches are bent to the ground in their natural direction and tied loosely with strips of cotton or other soft material and held in place by crotched pegs, care being taken not to injure the bark. When all branches are down the whole is covered with a mound of earth three to four feet in depth. In the writer's experience fine sand is preferable to earth, as it keeps away mice and cut worms, which are injurióus to the young wood.

In the spring, when danger from severe frost is over, air is let into the mound by holes made with a small pole or the handle of a rake, and during the following ten days the earth is removed by installments. Care must be taken that the bark is not injured in the process. When the bush is fully exposed it is generally found that bearing wood is covered with small fruit, about the size of a large pea, while the buds show, but are not open. Varieties that have proved most successful at Niagara are the White and Purple Ischias, the Brown Turkey, and White Genoa.

ASIATIC TURKEY.

INCREASED RAISIN CROP—VINEYARDS REPLACING OLIVE ORCHARDS.

Consul Ernest L. Harris advises that 281,000 sacks of raisins were received on the Smyrna market from the commencement of the season to January 30, against 175,000 sacks during the corresponding period of last year, or an increase of 106,000 sacks. The sales to the end of January amounted to 274,000 sacks, against 170,000 last year.

Owing to the keen competition of Crete, Spain, and Italy, in the matter of olive oil, the owners of olive orchards find that there is but little profit, and are now felling all but the very best olive trees, in order to plant vineyards instead. The Agricultural Department of the Vilayet of Smyrna has now about 1,157,000 cuttings ready for distribution to those about to plant vineyards. The Government grants freedom from taxation for a period of ten years on all new vineyards planted, in order to encourage the industry.

SUGAR TRADE.

CUBA.

NUMBER, OWNERSHIP, AND PRODUCTION OF THE PLANTATIONS.

Consul-General James L. Rodgers, writing from Habana, makes the following report on the control and output of sugar plantations in Cuba:

The latest statement as to the ownership of Cuban sugar plantations, meaning those which are producing sugar and not cane alone, assigns 36 to Americans, 76 to Europeans, and 74 to Cubans, a net gain of 3 plantations over 1907, the gains showing 5 to Americans and 4 to Cubans, while the Europeans lost 6.

Whatever may be the ownership no one has as yet been able to put an accurate valuation on the plants, this being due principally to the varying quantities of land possessed by the companies producing sugar. In some of the old "centrals" and "i genios" there is vested proprietorship over large tracts, and while only a small portion of the land may be planted, the whole of it may be included in the assets. Thus the estimate of values may well run from $50,000,000 to many hundred million dollars.

Assuming that the ownership is as stated, it can be seen that the foreign holdings in Cuban sugar plants are now over 60 per cent of the whole and presumably with a much greater proportionate value, since the American mills especially are of the most modern and efficient construction, while many of the mills credited to Cubans are of obsolete type and barely able to produce sugar at even a high cost. The European mills generally occupy the middle ground as far as value is concerned.

As to production on the basis of the 1907 output which represented the maximum of endeavor, the American mills produced 30 per cent of the total, the Cuban 35, and the European 35. As the number of American mills is given at only about one-half of the Cuban and European number, the size and efficiency can be easily perceived. Furthermore, the statistics of 1908 will undoubtedly show that the production from the American mills will be greater than either of the others.

CUBAN SUGAR INFLUENCE.

THE ISLAND'S CROP SHORTAGE RAISES EUROPEAN PRICES.

Consul Talbot J. Albert, writing from Brunswick, Germany, says that lately it has been distinctly shown that Cuba is in a position to be a prominent factor in shaping prices on the European sugar markets. The consul continues:

The conditions in Cuba more than any other impulse arouse in these markets the disposition to buy. The fact that a leading firm on April 8 last reduced their estimates of the crop in Cuba to 925,000 tons was sufficient to materially advance the price of sugar, so that the quotation exceeded that of last year at the same time in round numbers by 4½ marks ($1.07) per 100 kilos (220 pounds). In 1907 there was produced in round numbers 1,485,800 tons, and in 1906, 1,267,400 tons of Cuban raw sugar. According to the latest estimates there will be a deficiency of 560,800 and 340,000 tons, *respectively,* as compared with the two preceding years. This deficiency,

should it really reach the amount estimated, it is natural to suppose will compel recourse by the United States to European beet sugar, and the present advance in quotation is based upon the expectation of American purchases.

UNITED KINGDOM.

HIGHER PRICES CAUSED BY SHORTAGE AND INCREASED CONSUMPTION.

Consul Frank W. Mahin, writing from Nottingham, under date of April 27, says that since January 1, the wholesale price of sugar in Great Britain has advanced 17 per cent for raw and 9½ per cent for refined, adding:

The prices are said to be the highest since 1905, when the advance was due to artificial, speculative causes. The present advance is legitimate, being attributed mainly to shortage of cane sugar in Cuba, British East India, Mauritius, Argentina, Brazil, and Java. Increased European consumption and low stocks on hand are also noted as contributory causes. A general increase of retail prices of sugar is expected, but has not yet occurred in this market.

GERMANY.

DECREASED PRODUCTION SHOWN FOR FIRST HALF OF YEAR.

During the period from September 1, 1907, to March 1, 1908, being the first six months of the 1907–8 sugar campaign, the production in Germany was 1,817,183 metric tons, as compared with 1,909,140 metric tons during the corresponding months of 1906–7. The total output of sugar, raw and refined, during the period mentioned, expressed in terms of raw sugar, was 2,027,707 metric tons, as compared with 2,126,736 metric tons for the corresponding period of the previous year.

BRITISH INDIA.

PRODUCTION NOT SUFFICIENT TO SUPPLY HOME CONSUMPTION.

Consul-General William H. Michael, of Calcutta, reports that notwithstanding a home production of 2,076,250 tons of cane sugar, India imported 9,730,713 hundredweight of sugar, valued at $27,276,092, in the fiscal year ended March 31, 1907. Of the imports, 5,926,879 hundredweight were cane sugar, and 3,803,834 hundredweight beet sugar, the latter being imports from Austria-Hungary, Germany, the United Kingdom, etc.

JAVA.

LARGE AMERICAN AND BRITISH PURCHASES—JAPANESE HOLDINGS.

Consul-General Henry B. Miller forwards from Yokohama the following statement from a Japanese publication regarding the sugar trade:

American sugar merchants have made immense purchases of Java crude sugar, London merchants following a similar course. This has forced up the market for Java sugar from 6.10 to 6.60 yen per picul ($3.04 to $3.29 per 133⅓ pounds). The activity shown by the American merchants is due to the revival of trade in the United States and the failure of the sugar-cane crops in Cuba, the latter showing a decrease of about 30 per cent on the figures for a normal year, which amounted to 1,300,000 tons. Over 700,000 tons out of 1,400,000

tons of the total production in Java have been contracted for by American and British merchants, and the sugar market this year will be greatly affected. The stock of Java crude sugar in Japan is not more than 40,000 tons, which, added to the new sugar purchased for forward delivery by the Japan Sugar Refining Company, shows a total not much exceeding 52,000 tons. This is not regarded as sufficient to last for more than three months, so far as the operations of the Japan, Yokohama, and Kobe sugar refinery companies are concerned.

AFRICAN EDIBLE NUTS.

THE DYKA, KARITE, AND THE ACAJOU OR MAHOGANY NUT.

In answer to inquiries, Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to some new edible nuts of the West Coast of Africa:

The dyka nuts have no present commercial value whatever, and are not dealt in commercially, either in Marseille or on the West Coast of Africa. This information is supplied by one of the largest French corporations doing business on the West Coast. A sample of the nut, which is used by the West Coast natives to some extent for the production of a vegetable butter, is herewith inclosed. [Sample in the Bureau of Manufactures.] Thus far, although complete knowledge is available in regard to the article, it has not been found possible to utilize it practically.

On the other hand, the fruit of the karite tree is now being handled in fair commercial quantities, for the production of a cheap type of vegetable grease, useful for the manufacture of soap and candles. The natives of Africa hull the nut, which somewhat resembles the chestnut, mash and boil the kernels, skimming off the floating grease, which has also an alimentary value.

Another edible nut of commerce, comparatively unknown in the United States, is the acajou or mahogany nut, the kernel of which is solid, large, and sweet, and resembles the almond in flavor. Some shipments of this nut have been made to the United States within the last year or two.

ICE IN CALCUTTA.

LOW PRICES AND STEADY SUPPLY GUARANTEED.

Consul-General William H. Michael furnishes the following information concerning the terms on which ice is supplied to consumers in Calcutta:

The ice-manufacturing companies of Calcutta have issued a notice to the public that they are prepared to enter into engagements to supply ice at half a cent per pound. To do this it is proposed to sell coupon books which will bind the company to sell at a price agreed upon, whether the demand is large or small. The schedule of prices in the coupon books is as follows: 80 coupons, each for 4 pounds of ice, $1.66; 64 coupons, each for 6 pounds, $2; 80 coupons, each for 8 pounds, $3.33; 32 coupons, each for 40 pounds, $6.66.

It not infrequently happens that the supply of ice in Calcutta runs low, and prices go up accordingly. This is when the mercury runs up to 103°, 105°, and 109° in the shade, and stays there for days at a time. Then ice is liable to more than double in price, unless the consumer holds a coupon book.

INDUSTRIES.

CONDITIONS AND PRODUCTS.

SALVADOR.

MANUFACTURE OF ALCOHOL UNDER GOVERNMENT SUPERVISION.

Consul Samuel E. Magill, of San Salvador, reports that the manufacture of alcohol is conducted under the supervision of the Government, by certain persons in stipulated places, usually Government grounds, where each distiller must construct his plant. Concerning the sales of alcohol in the Republic, he writes as follows:

In all of Salvador there are 62 plants (owned by about 40 different concerns), the total capacity of which is about 22,000 bottles of 24 ounces each per month, on which the Government collects a fixed revenue of $1.50 silver (61.2 cents gold) per bottle. The retailer who sells in excess of the quantity assigned him (300 bottles per month in San Salvador) receives a rebate of 50 cents (20.4 cents gold) per bottle sold in excess of the fixed amount, paying a fine of a like sum per bottle on the number of bottles sold less than the fixed number assigned to him.

The material used is the juice of the sugar cane, either sugar or molasses, which is brought in from the cane fields and placed in vats holding about 1,000 gallons each, where it is allowed to remain in process of fermentation, from three to seven days, after which it goes through the usual distilling process, being kept at a temperature of about 65° C. (about 150° F.). It is then drawn off into tanks where it is inspected by Government experts, and after passing through this examination it is ready for sale. The Government's supervision extends even to the sale of the product, returning to the owner of each plant the money in excess of the tax.

PROBABLE OPENING FOR AMERICAN DISTILLING APPARATUS.

The apparatus used is entirely of French manufacture, and the plants vary in cost from $3,000 to $15,000 silver ($1,224 to $6,120 gold), according to capacity. The owners of plants, who were interviewed in this connection, could give no reason for their preference for French apparatus except that they had been accustomed to its use, and their attention had not been specially called to apparatus manufactured in any other country.

To secure the introduction of American distilling apparatus, it would, probably, be necessary for the manufacturer to guarantee the purchaser as to cost and capacity, to secure the first order, when, if results proved the superiority of the plant, other orders would come easily. [A list of the distillers in the Republic is on file in the Bureau of Manufactures.]

HONDURAS.

AMERICAN FORESTRY ENTERPRISE—NEW RAILWAY OPENED.

Consul Drew Linard writes as follows from Ceiba in regard to development in Honduras:

American capitalists have in view the working of a concession of 8,000 acres of hardwood timber. On a small area of this tract some 6,000 mahogany trees were located and marked for cutting. In the event of the carrying out of the project, the construction of 20 miles of railways, with spurs, will be undertaken. Steamships will also be chartered to transport the timber and other products to ports of the United States. It is also the intention to plant rubber, banana, and cacao as the land is cleared.

The Vaccaro Brothers railroad was officially opened for transportation traffic on April 11, and is now operating under regular schedule between Ceiba and Salado. Ceiba's release from land isolation is now apparent in the commercial activity caused by the many daily visitors who come from the various towns located along the 35 miles of completed road.

The track is of three-foot gage, 40-pound steel rails, creosoted American pine ties, and substantially ballasted. The roadbed passes over several American girder bridges, and all material used in the superstructure and rolling stock is of American manufacture. There are at present three 30-ton locomotives, sixty freight and several passenger cars in use, while additional equipment will be made as conditions demand.

It is the intention to construct a "loop" around Ceiba, a part of which will be built along the beach, and thereby enable the planters to discharge their cargoes from the train to lighters direct. This method will effect an important economy to fruit shippers. As a result of this road the development of banana cultivation is greatly increasing, and the shipments from this port will doubtless double the present 4,000,000 bunches that are annually exported.

COLOMBIA.

STATEMENT BY THE PRESIDENT OF THE REPUBLIC.

Consul Isaac N. Manning, of Cartegena, reports that previous to his visit to the Atlantic coast, President Reyes made a statement concerning the conditions and prospects in Colombia. The principal points are covered in the following review by the consul:

While the country has been placed on a solid financial base, and while a surplus of $3,000,000 in gold will be in the treasury at the end of the year, to serve as a reserve to maintain the currency on a fixed exchange value, the economic situation is far from satisfactory, and it is necessary to work for its betterment.

On account of the destruction by locusts of the cotton area planted last year, the industry did not turn out as favorably as was expected, but the Government will continue its efforts not only to extend cotton planting but to destroy the locust pest which has devastated the valleys of the torrid zone.

The Government is doing its best to induce foreign capitalists to build railways, and through these efforts three or four million dollars have reached Colombia during the past few years for the construction of the Girardot, the Dorada, and the Zipaquira to Nemocon railways, all of which are still under construction. A national company has been formed, with a capital of $1,400,000, for the extension of the Buenaventura railway to Papagayeros, and of the Cauca to Cali. The Government is also said to be endeavoring to arrange with the various capitalists of the country for the construction of the unfinished part of the railway from Puerto Berrio to Medellin, and is confident of the outcome.

The President's visit to Santa Marta is to see whether the banana industry can be extended, and to locate a colony there. He says that lands will be ceded gratis to any person who will agree to plant and cultivate bananas in that district.

After his visit to Santa Marta the President will visit other parts of the country with a view of assisting in the establishment of new industries.

CANADA.

PROMISING BUSINESS AND MANUFACTURING OUTLOOK IN NOVA SCOTIA.

Consul George N. West, in furnishing the following information concerning trade and industries in his district, reports that while the spring orders of the Sydney merchants are not heavy in volume the business prospects for the coming year are promising:

Improvements have been made in all mining properties, and from present indications the coal output in 1908 will be very large. Settlements have been made between the mine owners and the miners which will last until December 31, 1909, thus permitting the companies to make contracts two years ahead, and assuring the miners steady work at fair wages during that time.

The only iron and steel mill in Sydney which turns out finished work has enough orders for steel rails on hand to keep it going the entire year. It also has large orders ahead for other products.

A new company for the manufacture of solid forged steel car wheels is expected to begin the erection of a plant in Sydney during the coming season. The city will give this company a free site for the plant, and relieve it of all taxes for ten years. The company, which has an American title, will manufacture these wheels for all Canada, under an agreement whereby it will pay $1 per wheel to the patentees.

The large amounts of money paid to labor in Sydney and vicinity, say, $750,000 per month, should favorably affect all ranks of trade.

CHINA.

CHANGING MANUFACTURING CONDITIONS IN THE LARGE EMPIRE.

Consul Wilbur T. Gracey, of Tsingtau, contributes the following information concerning manufacturing in China:

Permission has been granted to certain Chinese to establish waterworks in Peking. The company has a capital of 500,000 taels, and

will begin work, it is stated, at once. The water will be brought from the Sha River and Ching River.

A report from Fatshan, near Canton, states that the native cloth trade there has declined considerably during the past year. At the beginning of last year there were over 200 native cloth dealers and now there remain only 15 to 20 houses of this description. The trade for last year is only about three-tenths of that of the year before last. This is due entirely to the large importations from foreign countries, which are taking the place of the native article.

Some time ago the Tartar general of Ili purchased a spinning and weaving plant from Europe through a foreign firm in Shanghai. Since the arrival of the plant in China it is found that the cost of transporting the machinery to Ili will be excessive, and it is suggested that the provincial authorities at Tientsin purchase it and establish the factory there. The Viceroy of Chihli has been directed by the Throne to consider the advisability of the scheme.

It is also reported that the gentry and merchants of Peking and Tientsin have raised share capital to the sum of 500,000 taels to establish a crape factory in Ili, for which 200,000 taels has already been collected.

Sheng Hsuan-Huai, president of the board of posts and communications, has obtained Imperial approval for the formation of a big coal and iron corporation in mid-China by the amalgamation of the steel and iron works at Hanyang (opposite Hankow), the coal mine at Pinghsiang, Kiangsi, and the iron mine at Tayeh, Hupei, with a capital of 1,000,000 taels, to be divided into 100,000 shares of 100 taels each. No foreign capital will be admitted. The change has been made in order to enable the works to meet the supplies needed for railways in China, and the manufacture of arms.

GERMANY.

ORGANIZATION OF A SYNDICATE OF BICYCLE MAKERS.

According to a German publication quoted by Consul-General Richard Guenther, of Frankfort, the efforts which have been made during the last twelve months to bring about a combine of the German bicycle manufacturers have recently attained success, so that now 90 per cent of the German production of bicycles, including all the principal makers, will act in unison regarding production, terms of sale, price, etc. This syndicate has already advanced the prices for bicycles and has made agreements with all parties supplying materials and fittings used in bicycle manufacture so that the members of the syndicate can purchase at lower prices than outside makers.

UNITED KINGDOM.

DEPRESSION IN THE SHIPBUILDING INDUSTRY.

Consul-General Robert J. Wynne, of London, reports that according to Lloyd's Register the vessels under construction in the United Kingdom at the end of March, 1908, were 847,501 gross tons, against 1,306,087 at the end of March, 1907, a decrease in a year of 35 per cent, of which 100,000 gross tons occurred during the last three months of the year. The present depression extends to every shipbuilding center in the Kingdom with the exception of Barrow.

BUILDING TRADE.

ARGENTINA.

GROWING MARKET FOR AMERICAN CONSTRUCTION MATERIALS.

Vice-Consul-General Otto Hollender makes the following report on the building trade in Buenos Aires and the possibility of a market for American building materials in the capital of Argentina:

The rapid increase in the population of this city and the consequent demand for houses and apartments of all kinds has caused building to be very brisk in Buenos Aires during the year 1907. According to Las Ventas, a publication dealing with real estate transactions, there have been constructed during the year 1907 buildings to the value of $79,033,833 Argentine paper money ($1 Argentine paper equal to $0.42⅓ American currency), the number having almost quadrupled within six years, the amount in the year 1901 being only $22,231,824. In spite of this enormous increase in building, rents continue very high, and apartment houses as well as office buildings are generally let even before they are finished, which would indicate that building will be quite brisk in this city for some time to come.

A decided change in the style of building is to be noted all over the city, and while a few years ago the old Spanish style of building, consisting of one story only, with a large "patio" in the middle and fronting directly on the street, was in vogue, numerous buildings of three, four, and even five stories may be seen in the center of the city, while in the suburbs modern dwellings are gradually taking the place of the old-style houses.

WHERE THE MATERIALS COME FROM.

At the present time there is an eight-story building being put up here by Americans, on the American plan and with materials from the United States, which bids fair to induce others to adopt that style of building.

Of the building materials, iron and steel, as well as cement, are mostly imported from England, Germany, and France, although lately considerable quantities of steel have also been imported from the United States. Of the lumber, the white pine, pitch pine, and spruce is nearly all imported from the United States, with an occasional shipment from Canada, while the hard woods are nearly all found in this country.

Sand is imported from Uruguay, there being hardly any in the Argentine Republic, but sometimes bricks are pulverized and used in lieu of the sand, the cost of transportation making the latter an expensive article. Bricks are nearly all made in this country, while tiles for flooring and roofing are mostly imported from France and Belgium.

Plumbing material has been imported lately ll : ıt from the United States, but the bulk of it still com ɪr . T United States certainly ought to be able to (ɒr this business. This also applies to buil appliances.

With the tendency for modern bu time there ought to be a good ma of all kinds, as well as sanitary

builders' tools, and hardware of all kinds. [A list of the largest constructors in Buenos Aires forwarded by the consular officer may be secured from the Bureau of Manufactures.]

UNITED KINGDOM.

IMPROVEMENT IN HOUSE CONSTRUCTION TO BE MADE IN MANCHESTER.

Consul Church Howe advises that the new building by-laws which have been under consideration by the Manchester corporation for some two or three years have been adopted by the improvements committee of that British city.

The by-laws are a great advance upon those now in operation. In the judgment of the committee, the new by-laws are an important and much-needed step forward. They will secure to the houses of the future more air space, wider streets, and an absence of long, monotonous rows. The main object is to prevent the spread of slums and promote the health and comfort of the people. In future no new street will be less than 14 yards wide, an increase of 2 yards on the minimum width. Main roads must be 50 feet wide instead of 36 feet, the present minimum. And, as far as possible, one street will be planned so as to fit in with other streets.

The long rows of houses, all of one pattern, will not be sanctioned. No block of houses must contain more than 10, nor cover a frontage of more than 100 yards. At the back of each cottage there must be an area of not less than 250 feet, an advance of 100 feet. No blind alleys will be allowed in future, and all passages must lead to main streets. The committee also made provision for staircases in all houses to be fitted with hand rails.

These are the main points of the new by-laws. They will not, however, affect houses that have already been built, but in future all plans that come before the committee for sanction will have to conform to the new regulations.

BAVARIAN INDUSTRIAL INSPECTION.

GOVERNMENT REPORT ON OPERATION OF FACTORIES AND MINES.

The annual report for 1907 of the departments for inspection of industries for the State of Bavaria has recently been published. Its leading features are covered by Consul H. W. Harris, of Nuremberg, as follows:

The State has an area of 29,282 square miles, or slightly less than the combined area of West Virginia and Connecticut. Its population exceeds 6,500,000. It is usually reckoned as an agricultural State, though it has several important manufacturing centers. Its population per square mile is somewhat less than that of Prussia and only about one-fourth that of Saxony.

The report referred to shows that 105,444 concerns employing 676,353 workmen were legally subject to inspection. Of these 8,101 were factories employing a total of 408,904 workmen, while 97,343 concerns for hand work only employed 267,444 workmen. A total increase over the preceding year of 28,652 [illegible] concerns sub-

ject to inspection is noted, the larger number of these being in factories.

The number of inspections made during the year was 18,756, of which 6,020 were factories, the total of employees in these concerns being 366,266; 184 inspections were made at night and 391 on Sundays and holidays; 1,352 clothing establishments were among the concerns inspected.

Of the 676,353 employees in factories and other concerns subject to inspection, there were 532,412 males and 143,941 females; of these 56,163 males and 16,588 females were reported as under 16 years of age. The report refers to the valuable cooperation of the school authorities to prevent evasion of the laws regulating the employment of children.

LABOR MOVEMENTS—ACCIDENTAL INJURIES.

The report refers to the year as one in which strikes and other labor movements have been frequent. Both employees and employers have strengthened their respective organizations. Wages and the cost of living have tended to increase, while reductions in the hours of labor and of Sunday labor have occurred in many branches. Adult females in factories are said to work, as a rule, less than eleven hours per day. The industrial courts (Gewerbegerichte), provided for under Federal law as a cheap and convenient means for the adjustment of questions arising between employers and employees, are referred to in the report as having rendered valuable service during the year. Fifty such courts are stated to be now organized in Bavaria.

The number of personal injuries in factories and other allied concerns is stated in the report to show an increase over those of the preceding year, notwithstanding the more general adoption of safety appliances. This is said to be due, in part, to the introduction of machinery in place of hand processes, the more rapid speed at which machinery is run under the stimulus of favorable business conditions, and of the more general introduction of piecework. The total number of reported injuries was 16,207, an increase of 1,136 over the preceding year. Death resulted in 141 cases, of which 4 were those of female employees and 7 of employees under 16 years of age.

SAWMILLS—MINERAL PRODUCTS.

The report refers to special attention given by the department to the sawmills in Bavaria, of which 3,121 are reported. Most of these mills are small and are operated by water power. The number of employees is stated at 12,955, of which 513 of both sexes were under 16 years of age and 322 were adult females. The hours of labor in these mills is stated to vary from ten to fourteen hours and in some cases from sixteen to eighteen hours. Much of this labor has to do with the sawing of slabs and other refuse from the mills into short lengths which are tied in small bundles and sold for fuel.

The total value of coal, ores, clays, and other mineral products produced in Bavaria during the year is stated at $5,500,000. The total number employed in these industries was 11,845, of which 8,970 were engaged in mining coal. Among the employees in mines, quarries, clay pits, etc., there were 356 adult females, 354 boys, and 51 girls between the ages of 14 and 16 years.

TOBACCO FACTORIES.

COLOMBIA.

SUCCESSFUL PLANT AT CARTAGENA—FOREIGN TOBACCO PURCHASES.

Consul Isaac A. Manning recently visited the cigarette factory of N. Emiliani in Cartagena, which was established in 1898 and is proving a successful industry. The consul describes this Colombian enterprise as follows:

This factory employs an average of 12 hands and has a daily output of about 90,000 cigarettes. It sells its product in most of the important cities of Colombia. There are in operation two Comas machines, built by Hugo Bilgram, of Philadelphia, for making the favorite " folded end " cigarette of Spanish America, and one French machine for making cigarettes of the Egyptian pattern. There is a Jewel cutting machine, made by H. Levey, of New York, and the power is supplied by a Fairbanks-Morse gasoline motor.

Cuban tobacco, commonly known as " picadura," is generally used, and the paper is made from cotton or cotton fabrics. A small quantity of Colombian tobacco is used. But very little is known in this country of modes of treatment necessary to prepare the local product and give it the proper flavor and color for cigarettes. Yet it is said that Colombian tobacco is popular in Germany for pipe, cigarettes, and cigars. No Virginia tobacco is used, nor is any rice or wheat paper, the Colombian taste seeming to prefer the odor of the cotton paper, which, to one used to the almost odorless papers mentioned, is unbearable.

IMPORTS OF TOBACCO GOODS.

The importation at Cartagena of foreign cigarettes is light, and the same may be said of American cigarettes and pipe tobacco. Of cigarettes during the year ending June 30, 1907, the importation from Cuba amounted to 1,490 kilos (kilo=2⅕ pounds), from the United States 386 kilos, and from Germany 290 kilos. The importation of cut tobacco from the United States was apparently 13,270 kilos, and from Cuba 1,685 kilos; yet the bulk of that imported from the United States was Cuban tobacco, reexported from bonded warehouses under drawback certificate. Of cigarette tobacco (probably of the Virginia variety), 176 kilos were imported from all countries.

In leaf tobacco the United States fared rather better, having exported to this port 45,189 kilos during the period mentioned. This was principally for use as cigar wrapper, and was used in the manufacture of cigars with a Colombian filler. The greatest cigar manufacturing district is that of Ambalema, on the Magdalena River, and the cigar makers there are putting out a creditable product. They are put up in boxes of 25, 50, and 100, and make a fairly good appearance, although not equal in shape, style, or flavor to the Jamaica or other island cigars, which are imported here in small quantities.

The field here for the manufacture of cigars and cigarettes for both home consumption and export may be said to be still open to any one with capital and a knowledge of tobacco treatment. The consumption is great, and consumers would appreciate better products than are usually offered in the local markets.

CORSICA.

OPPORTUNITIES FOR THE SALE OF AMERICAN TOBACCO.

Consular Agent Damiani reports to Consul-General Robert P. Skinner, of Marseille, that the manufacture of tobacco upon the island of Corsica is not controlled by the State as it is in continental France, and that opportunities exist from time to time for the sale of Kentucky leaf for wrapping purposes. It appears that at present manufacturers procure their supplies through French and German importers from the United States. Mr. Damiani suggests that American firms should be able to control this business direct. Fine, large leaves of black Kentucky tobacco are required, packed preferably in half hogsheads. The national directory contains names of manufacturers of tobacco in Corsica, which may be obtained from the Bureau of Manufactures.

HYDROGEN GAS PRODUCTION.

ITS ECONOMICAL PREPARATION FOR TECHNICAL PURPOSES.

In transmitting the following report, Consul Thomas H. Norton, of Chemnitz, says that much interest is felt in aeronautic and in certain mechanical circles in the perfection by a German professor of a method for the economical preparation of hydrogen gas on a large scale:

The materials employed in the new process of manufacturing hydrogen gas are water, coke, and calcium carbide. The first step is the production of "water gas," the well-known gaseous mixture obtained when a current of steam is passed through a thick layer of red-hot carbon. For some years past this cheap gas has been employed as a fuel and also for illuminating purposes, either when saturated with volatile hydrocarbons or in connection with incandescent mantles. Its own flame when burning in the air is almost destitute of luminous properties. Water gas consists of a mixture of hydrogen and carbon monoxide gases, with small amounts of nitrogen, etc. Theoretically the two gases should be present in equal volumes, but in practice the amount of free hydrogen is far behind the theory.

The professor has solved the problem of the elimination of the carbon monoxide from the mixture by bringing into play a very simple and elegant reaction. The gaseous mixture is conducted over glowing calcium carbide in the form of powder. As a result the carbon monoxide is completely decomposed in contact with the calcium carbide. Lime (calcium oxide) is formed, and carbon in the form of crystalline graphite is separated. This by-product of artificial graphite is itself capable of utilization for most of the purposes where the natural mineral substance is employed. The minor impurities of the original mixtures are likewise removed in the reaction, and as a result, hydrogen containing but 1 per cent of other gases is isolated.

COST OF MANUFACTURE.

The process is one of extreme simplicity and cheapness, and allows of the easy and rapid production of large quantities of nearly pure hydrogen. An installation capable of evolving daily a volume of 70,000 cubic feet of hydrogen occupies a very small space. Hitherto

those requiring the gas for balloons or the like have been forced to use the expensive process of preparation based upon the action of acids (hydrochloric or sulphuric) upon metals, usually upon iron. The transportation of acids to remote points is also attended with much inconvenience and difficulty.

In its notable lessening of the cost of hydrogen, the new process has accomplished for this gas what another scientist a few years ago did for oxygen when he introduced the method of the fractional distillation of liquid air, and thus secured an "air," consisting of oxygen with but a slight admixture of nitrogen.

Cheap hydrogen is of great value at the present stage in the development of aeronautics, where, in many cases, it is of prime importance to have a much lighter gas than illuminating gas; for example, in polar exploration. This increased availability of hydrogen for technical purposes will likewise be of distinct value in extending its use for autogenetic welding.

GLASS TRADE REVIEW.

EUROPEAN VIEW OF THE MANUFACTURING GROWTH IN UNITED STATES.

Consul Joseph I. Brittain, of Prague, submits the following report regarding the European view of the progress American glassware manufacturers have made in the past few years:

A recent number of the Austrian Export Industrieblatt issues a note of warning to the Continental glassware manufacturers. The paper advises the European trade to study carefully American methods for manufacturing glassware, especially pressed glassware. It states that the American glass industry has made wonderful progress since 1850, when there were but 5,700 clerks and mechanics employed in the American glass industry, and only $2,000,000 annually was paid in wages.

It further states that the number of glassworks increased 12 per cent between 1900 and 1905, while the number of workmen increased 21 per cent, invested capital 46 per cent, and production 41 per cent. The article says that in 1905 there were in the United States 399 glassworks with an invested capital of $89,000,000, an annual output of $80,000,000 worth, giving employment to 64,000 workmen, and with a yearly pay roll of $37,000,000.

The opinion is expressed that the American glassworks will in a few years supply the entire home demand, and sharply compete in the markets of the world against Continental manufacturers. Especial mention is made concerning our advancement in the manufacture of plate glass, which was formerly imported largely from Belgium. It is stated that 22 glass furnaces have been obliged to close, which formerly made heavy shipments to the United States.

BOTTLE TRADE—PRESSED GLASS COMPETITION.

The article speaks of the enormous increase in the manufacture of bottles in the United States, which is given at 12 per cent in 1907 over the product in 1906. This increase is attributed to our perfected bottle-making machinery.

Particular attention is called to the fine quality of pressed glass made in the United States, which, the article states, owing to its

peculiar brilliancy and rough edges, closely resembles cut glass. It is claimed that the manufacturers at Cologne and Ehrenfeld, Germany, are bending their energies to equal the American pressed glass and thus prevent its obtaining a foothold in Germany, and other European countries where American pressed glass is finding favor.

The writer of the article appears to be satisfied with the exports of cut glass, hotel and restaurant ware, and the finer grades of Bohemian, German, and French glassware to the United States. He also mentions the exports of colored lamp shades, and certain styles of lamp glasses, as well as fancy colored glass for illuminating purposes, also crystals for watches. The latter article is made almost entirely in Germany, especially in Alsace-Lorraine.

Watch glass crystals are made by hand, and in consequence of the lower prices paid for labor in Germany the American manufacturers can not compete.

SOAP MAKING IN CHINA.

NEW FACTORY ESTABLISHED AT TSINGTAU BY A GERMAN DRUGGIST.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following information regarding soap making in that Chinese city:

A German resident of this city has recently completed the erection of a soap-manufacturing plant in Tsingtau, which appears to be having considerable success. The idea is to manufacture toilet and washing soaps to be supplied to the natives at lower prices than the imported products.

The factory is run entirely by electricity, and has Chinese employees. It is said that pure fat only is used in the manufacture of the soaps, and the toilet soaps are said to be much superior to the imported soaps which can be purchased at anywhere near the same price. The soap is said to be clean, mild, soft, and giving a strong foam in washing, with a delicate perfume, and will stand comparison with much more expensive imported products.

A novelty which has been introduced, and which foreign manufacturers would do well to copy, is the sale of soft soap or smear soap in enamel buckets. This soap is sold in graniteware enamel buckets holding 10 kilos, and sells complete with wooden cover for the bucket at $3.80 Mexican ($1.79 gold), a 5-kilo bucket of soap selling at $2.20 Mexican ($1.03 gold). The cost of the bucket and soap together is less than the buckets alone in the regular retail shops of the city. This mode of selling appeals particularly to the Chinese, as they are particularly anxious to secure enamelware goods.

TOILET AND WASHING SOAP—OWNER IMPORTS OTHER GOODS.

The soap factory sells its violet, lilac, heliotrope, and lily-of-the-valley scented toilet soaps in cartons containing three cakes at $1 Mexican ($0.47 gold) per carton at retail. Other toilet soaps are packed four cakes in a carton and are sold at 50 cents Mexican (23 cents gold) per carton. Family toilet soap comes six cakes in a carton and sells for 50 cents Mexican (23 cents gold). Lanolin soap sells for 15 cents Mexican per cake and shaving soap at 20 cents per cake. Washing soaps come 25 cakes or bars to the case, each bar weighing 2 pounds, and sells for $5 Mexican ($2.35 gold) per case.

given by Italy might be followed; namely, that of planting trees of the poplar variety, which are of rapid growth and possess admirable qualities for the manufacture of wood pulp, the varieties known as Canada and Temblon (aspen) being considered the best. The young trees, it is said, should be planted in a light, newly turned-up ground, each within a radius of 2½ meters (about 8 feet). If these plantations could be made on a large scale, the paper industry could be supplied by home produce and would be independent of foreign importation.

WOMEN EMPLOYEES.

UNITED KINGDOM.

THE LARGE PROPORTION ENGAGED IN BRITISH FACTORIES.

Consul Maxwell Blake, of Dunfermline, finds that a late official return as to employment in factories in the United Kingdom other than textile gives interesting particulars as to the proportion of male and female workers. Out of a total of 307,157 workers in clothing factories, 197,320 were women, the female tailors numbering 46,072 to 13,984 men. Out of a total of 102,489 employed in boot and shoe factories, 31,467 were women; and out of 18,962 lithographic printers, 6,538 were women. In explosives' factories there are 5,538 women employed out of a total of 15,114, while 2,947 out of a total of 12,431 persons employed at bottling beer are women. There are also 25,603 women included in the total of 34,112 workers in tobacco, snuff, and cigar factories.

GREECE.

NEW LAW PERMITS THEIR ADMISSION INTO PUBLIC SERVICE.

Consul-General George Horton, of Athens, supplies the following concerning the employment of women in Greece:

The Chamber of Deputies recently enacted a law by which, for the first time in modern Greece, women are admitted in the public service. In accordance with this law, the director of posts and telegraphs is authorized to employ 50 women, to be used mainly in the telephone service. They are to be between 21 and 35 years of age, and are to receive 70 drachmas (about $13.50) per month, for six hours' work per day.

LABORERS FOR NICARAGUA.

GOVERNMENT CONCESSION FOR IMPORTATION OF ASIATICS.

Consul José de Olivares writes from Managua that the Nicaraguan Government has given a five-year concession to a Mexican [name on file at Bureau of Manufactures], granting the right to introduce Chinese and Japanese immigrants into Nicaragua for employment as laborers in connection with plantations and other industries in the country. This concession, however, is conditioned on the establishment by the concessionaire, within the period of one year, of a line of steamers from Hongkong, touching at Shanghai, San Francisco, Salina Cruz, and Central American ports, including Corinto and San Juan del Sur.

ITALIAN FLOUR WAFERS.

UNIVERSALLY USED IN THE KINGDOM FOR MEDICAL PURPOSES.

Consul James E. Dunning, of Milan, in answer to an inquiry, forwards the following report, made by Clerk Siersdorfer, of the consulate, on the flour-wafer trade in Italy:

The flour wafer, composed of flour and water cooked, is used in Italy much more than in the United States for medical purposes. It takes the place of the capsule to a certain extent. A comparatively large quantity is also used in the manufacture of nougat.

Flour wafers used medically sell on the Italian market for from 15 to 18 cents per pound. Lower rates would probably be given for large quantities. A list of manufacturers in Italy accompanies this report.

The manufacturing process of the various kinds of flour wafers in Italy is very simple. The flour and water are mixed and laid on either of two iron plates, and the wafers are pressed to the required thicknesses by moving two iron handles. After this the pressed wafers are cut into any size required by a machine. These mechanisms are manufactured to order by all Italian iron works. There is no special machine as yet introduced or evidently needed in this industry in Italy.

The flour wafer used for nougat is simply rolled instead of pressed. The nougat manufacturers make their own flour wafer, which contains a small percentage of sugar. The flour wafer used by the church in Italy is practically all made in the convents, which are fully equipped for its manufacture.

[A list of Italian manufacturers of flour wafers, the address of a machine maker, and illustrations of both the pressing and cutting machines are filed for reference with the Bureau of Manufactures.]

SPANISH PAPER MANUFACTURE.

A GROWING INDUSTRY—THE QUESTION OF PULP WOOD SUPPLY.

The directing engineer of the Papelera Española has published an important treatise upon the manufacture of paper in Spain, from which Consul-General Benjamin H. Ridgely, of Barcelona, extracts the following observations as being of general interest:

Paper manufacture in Spain has within a short space of time made great progress and is now a well-established industry. A large quantity of paper is consumed here, and it is nearly all produced in the country, in spite of which fact, here as in other countries, the market is in rather an uncertain and unsatisfactory condition. The consumption of pulp for paper manufacture in Spain may be estimated at about 15,000 tons, of which about 4,000 tons are now produced in the country and the remainder is imported from the north of Europe. It is believed that in the present year 10,000 tons will be produced in Spain, so that only about 5,000 tons will have to be imported. It is a curious fact that only 2,500 tons of these 10,000 will be produced with wood of the country, and the remaining 7,500 will be obtained from foreign wood. If it were not for this circumstance, the paper industry in Spain would be still more prosperous. The pulp made from foreign wood is used for the manufacture of white paper for correspondence and newspapers, and the 2,500 tons of pulp produced in the country are used for the manufacture of ordinary wrapping paper.

Manufacturers say that the solution of this condition might be found in the erection of pulp manufactories near the paper mills, and by planting trees suitable for the production of a good quality of pulp; also that the example

given by Italy might be followed; namely, that of planting trees of the poplar variety, which are of rapid growth and possess admirable qualities for the manufacture of wood pulp, the varieties known as Canada and Temblon (aspen) being considered the best. The young trees, it is said, should be planted in a light, newly turned-up ground, each within a radius of 2½ meters (about 8 feet). If these plantations could be made on a large scale, the paper industry could be supplied by home produce and would be independent of foreign importation.

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AGRICULTURE.

FOREIGN FARM PRODUCTS.

RUSSIA.

HARVEST CONDITIONS IN SOUTHERN REGION—EXPORTS OF PRODUCTS.

The following report has been received at the Odessa consulate from Consular Agent Martin, at Rostov on Don, relative to agriculture, the sale of agricultural machinery, wool, and ferromanganese in that part of the Russian Empire for the year 1907:

Crop prospects during the spring of 1907 seemed to promise a very good harvest in the neighboring districts of the northern Caucasus and Don Cossack territory, but, unfortunately, owing to prolonged droughts up to harvesting time, it turned out to be only slightly above the average. There was, however, after the financial crisis of 1906, a revival of trade in consequence of a good demand for grain from abroad and prices rose considerably, especially for wheat and barley. In view of the expected large harvest, extensive sales of grain were made to exporters during the spring, but, owing to the shortage of the crop, only a comparatively small quantity could be delivered against the sales in question, the consequence being that the exporters suffered heavy losses, while the farmers, as a rule, profited by the continued rise in prices. The following table shows, comparatively, the quantities of grain exported from Rostov on Don:

Description.	1907.	1906.
	Tons.	*Tons.*
Wheat	229,817	350,920
Rye	196,443	71,318
Barley	351,471	286,600
Oats, linseed, and rape seed	1,057	8,184

AGRICULTURAL MACHINERY SALES.

Trade during the year in agricultural machinery was very unsatisfactory. There was a falling off in sales of about 40 per cent, as compared with the previous year, in the matter of American harvesting machinery, such as binders, reapers, mowers, and rakes. In order to be able to guarantee the priority on this market for American harvesting machinery, exclusive of Canadian, the principal American manufacturers have formed a combine and have opened a general office here. In the matter of threshing machinery there was during the year a good demand, the sales being 250 sets of English make, 75 of German, and 7 of Austrian. American threshing machinery has been offered at various times on this market, but thus far has not met with success. Ploughs also were well disposed of. These were exclusively of Russian and German make.

WOOL AND MANGANESE.

A fair business was done in Donskoi wool (a coarse, long product) during the year, prices being high, owing to the competition of Rus-

sian manufacturers and the speculators buying for the United States. This wool was found to be superior to the 1906 clip. Prices for greasy wool ruled from $3.35 to $3.86 per pood (36 pounds). The total quantity offered here was 215,000 poods, of which 75,000 in the grease were sold to Russian manufacturers, and 140,000 to Rostov firms, who obtained from this quantity after washing 77,500 poods. Of this quantity, 69,000 poods were shipped to the United States and 8,000 went for home consumption, leaving 5,000 unsold. Brook-washed Donskoi "autumns" to the extent of 12,000 poods changed hands and the greater part was forwarded to Germany. Prices were from $5.15 to $5.91 per pood. In merino wool there was a good demand for a high quality only, owing to the smallness of Russian Government orders. Prices ruled as follows: Best quality, $6.95 to $7.73; medium, $6.18 to $6.69½; lower, $4.50 to $5.92. Recently there were among wool growers and merchants rumors of a plan supposed to be under consideration at the Ministry of War at St. Petersburg that the material for soldiers' uniforms be made out of Donskoi wool instead of merino, as heretofore. The apparent result would be that merino wool prices would fall about 30 per cent and the demand would dwindle for this class of wool to the benefit of Donskois, which already, in consequence of the annual decrease in the production and gradually increasing demand for Russia, have risen very high in value. The local merino wool growers have petitioned the ministry to abandon this project. As it is, the scarcity and enhanced increase in the value of land in the northern Caucasus have greatly hampered the growing of wool there and many wool growers are thinking of emigrating to Siberia.

During the year 1906 and the spring of 1907, 481,882 poods of ferromanganese were shipped to the United States from Mariupol. The demand in the United States having diminished, and prices having fallen heavily there, the export of this article ceased completely.

AUSTRIA.

BOHEMIAN SUGAR-BEET GROWERS ORGANIZE AND SECURE CONCESSIONS.

Consul Joseph I. Brittain sends the information from Prague that the growers of sugar beets in Bohemia have formed an organization to maintain prices, and have presented a virtual ultimatum to the refiners, demanding higher prices for their beets or no beets will be grown. The consul continues:

Two factors have contributed toward the planters being able to take such a position. During the past years it has been the custom for the refiners to advance money to the planters on the growing crops before they were harvested. By so doing the beet growers would be to a certain extent dependent upon the refiners when the crop of beets was ready for delivery at the sugar mills. This year it is said that the bankers have encouraged the farmers' organization.

Again the prices for grain in Bohemia have materially advanced, making the raising of grain more profitable than raising sugar beets at such low prices.

The refiners, realizing their dependence upon the planters for their supply of beets, have finally recognized the planters' organization,

and have acceded to most of its demands. Last year the price paid for beets was $3.50 per ton, and this year the price will be $4.95 per ton. Last year the yield of sugar beets in Bohemia was 4,051,800 tons. By the terms of the agreement between the refiners and planters there is to be no discrimination. The small farmer who produces a few tons of beets will receive as much per ton as his more fortunate neighbor who produces a larger quantity.

BRITISH INDIA.

AREA AND CONDITION OF THE RABI CROPS OF BENGAL.

Consul-General William H. Michael, of Calcutta, furnishes the following information relative to rabi crops of Bengal:

In Bengal the chief rabi crops consist of rice, barley, gram, oats, kalai, mung, peas, khesari, kurti, buckwheat, potatoes, yams, melons, chillies, etc.

The forecast report of the department of agriculture just issued states that the failure of the monsoon prevented the sowing of a normal area in the province, and the dryness of the soil has injured the crops that were sown. The area sown is placed by the report at 5,990,200 acres, which is only three-fourths of the normal area, and the estimated yield will be about 70 per cent of a normal crop. This, on the whole, is not considered bad, yet it is a falling off that will be felt. The rabi harvest will relieve the strain in many parts of Bengal where the high prices of foodstuffs are sorely felt.

DECREASED SUGAR-CANE CROP.

The following information about the sugar-cane crop of British India is furnished by Consul E. Haldeman Dennison, of Bombay:

The final report on the sugar-cane crop in the United Provinces, where half the sugar cane of British India is grown, bears sad testimony to the disastrous consequences of the failure of the monsoon. The area placed under the crop was 1,481,737 acres, the largest on record, being 6.9 per cent above the previous year. For the provinces as a whole the crop is estimated at 60 per cent of the normal, as compared with 90 per cent last year; the outturn of "gur" being calculated at 24,955,000 maunds (maund = 82⅔ pounds), a decrease of 9,470,000 maunds, or 27 per cent. The prices of the raw product are, however, higher than those of last year.

JAPAN.

INCREASED RICE YIELD NOT SUFFICIENT FOR NEEDS OF THE PEOPLE.

Vice-Consul Walter Gassett, writing from Kobe, says that the official return of the rice crop of 1907 for the Japanese perfecture of Hiogo (Kobe) is given as 10,586,014 bushels. He reviews the crop figures as follows:

The yield was slightly under the aver for the four previous years, that of 1906 having been 10,890,[illegible] bushels; 1905, 10,032,353 bushels; 1904, 10,975,170 bushels, [illegible]d 1 [illegible], 10,513.1 bushels. The crop for the whole of the Empi [illegible],399,485 bushels,

showing an increase of 5.9 per cent, as compared with the previous year and of 11.8 per cent as compared with an average yield. The crop is the largest since 1904.

This may be accounted for by a larger acreage and improved methods of cultivation, but the ratio of increase has not kept pace with the greater demand caused by the growth of the population and the increased consumption of rice among the poorer class of farmers, instead of millet and wheat, and it is estimated that 25,000,000 bushels will have to be imported to make up the deficiency.

IRRIGATION IN PERU.

THE GOVERNMENT ANXIOUS TO EXTEND THE SYSTEM.

Special Agent Charles M. Pepper, in a letter from Lima, gives an account of what has been done in the way of irrigation in Peru and what remains to be done, as follows:

In outlining the market for farm implements in Peru, in a report made some time ago, I referred to irrigation. A number of inquiries were received asking for information as to the prospect of establishing irrigation plants and providing pumping machinery on a large scale. These questions can be answered by a general description. They are timely, because the Peruvian national administration expects to give especial attention to irrigation as a means of inducing immigration from Europe.

Peruvian irrigation can not be compared to the southwest region of the United States or to India and Egypt, where great storage reservoirs are employed. In the coast region, which is the district in which it is intended to encourage irrigation, there are no large rivers. The areas for storage and distribution are dependent on the small rivers. The most extensive irrigation which has been attempted up to the present time is in the northern or Piura section, where the very fine cotton which commands high prices is raised. The system there, which is still in an experimental stage, is that of canals, the Chira Canal being the principal one. Large amounts of money have been spent in developing this canal system, but it is claimed that engineering mistakes have been made which will have to be rectified before satisfactory results can be obtained. In this region there is rain only at rare intervals, sometimes fourteen years apart. The soil, however, is so productive when it can be watered that it justifies the expense and the effort to provide a permanent system.

IRRIGATION ON A MODEST SCALE.

In the northern district of Tumbez, Piura, and Lambayeque, about 135,000 acres are under irrigation, the canals being supplemented by pumping machinery. Windmills are also utilized in obtaining water for domestic consumption, for live stock, and to a limited extent for the crops.

In southern Peru, in the districts of Arequipa, Moquegua, and Tacna, approximately 75,000 acres are under irrigation. In the Arequipa district the Chili River furnishes the means for reservoir storage. Around Moquegua canals are available. Steam pumps are also employed to some extent, and windmills. In all this southern region, from Arequipa to Tacna, there is considerable loss from the small rivers which empty into the sea and whose waters might be

captured and distributed. Windmills and some small steam pumps are employed, while there are artesian possibilities. On the high pampas of this region reservoirs have been projected and a canal system also has been proposed, but there has been no actual attempt at irrigation on a large scale. In the Tambo Valley, where the pampa is about 1,000 feet above sea level, hydraulic pumps have been suggested, but the opinion of the engineering experts is that they would prove too costly. On the pampas generally the water is found too far below the surface to be pumped. In the valleys the subterranean waters can be raised by this means. In the rich valley of Ica, where there is a regular annual rainfall, and farther north, in the Cerro de Azul district, where the rainfall is greater, irrigation on a large scale is practicable. These valleys produce cotton, sugar cane, a great variety of fruits, and have vineyards which are famous.

In northern Peru, around Sechura and the adjoining regions, the borings have given negative artesian results except in the alluvial deltas. The arid plains between the valleys have been declared to be too saline for cultivation. But there is a large tributary region which is thought to be capable of irrigation.

EXPERTS FROM THE UNITED STATES GIVE AID.

The Peruvian Government for several years past has had American experts from the United States Geological Survey and the Reclamation Service engaged in testing the possibilities for irrigation. These experts are making a series of reports, which indicate the most favorable regions and the conditions under which irrigation should be carried on. The work is done under the direction of the Mining Institute, which is a branch of the Department of Fomento or Public Improvement. The reports are published in Spanish, and they form a valuable series. They are illustrated by maps which are very instructive features. [A set of these reports, with the accompanying maps, is filed with the Bureau of Manufactures.]

As a result of the investigations already made it is estimated that approximately 2,500,000 acres of the Peruvian coast region is capable of irrigation, of which between 800,000 of 1,000,000 acres are in the valley districts. The ease with which the coast is reached and a market obtained for the products secured by irrigation is one reason for encouraging irrigation enterprises, though heretofore many of these have failed when undertaken by private individuals or companies. The legislation designed to encourage projects of this sort is liberal. It provides the mode of occupation for the lands, regulations for the protection of the owners, and other important subjects. The laws and regulations are contained in the Irrigation Code of 1903.

GOVERNMENT AID, BUT NOT FINANCIAL SUPPORT.

Some of the large landowners have sought the cooperation of the Government in their irrigation plans and this has been given them, but not to the extent of providing financial support. There is a very general desire to secure American capital under the direction of Americans who have had experience in practical irrigation work in the United States. Very many promising schemes exist on paper, but they lack a practical direction. Years ago Henry Meiggs, who built the Peruvian railways, planned an extensive irrigation system for the Chimbote district in the north, with a model town and model

farms, but after his death no one was found to carry it forward. Since the whole subject has been taken up again by the Peruvian Government, American manufacturers of irrigation machinery who desire to establish large plants, and also American capitalists who may want to take advantage of the richness of the Peruvian soil when irrigated, have available means of information. Peru's leading crops—sugar, cotton, and rice—are all irrigation crops.

GROWING WHEAT IN BRAZIL.

GOVERNMENT INVESTIGATIONS AND TESTS IN VARIOUS SECTIONS.

Consul-General George E. Anderson, of Rio de Janeiro, states that in view of the one time great trade in American flour in Brazil, and as bearing upon the continuation of that trade for which many American exporters are now working, in connection with the preferential tariff reduction Brazil offers on American flour, the reported results of recent official and private experiments in wheat growing in the State of Rio Grande do Sul are of unusual interest. He reviews the outlook as follows:

The State of Rio Grande do Sul, the southernmost State of the Brazilian Republic and the one therefore with the coldest climate, has long been pointed to by Brazilian statesmen as a possible granary for Brazil. It has been thought that modern and scientific culture of wheat in the State would do much toward removing Brazil from its present necessity of importing all its breadstuffs, and there has been a strong movement from time to time toward fixing a higher duty upon foreign wheat for the protection of the Brazilian product.

In line with these ideas and in response to the demand of capital for actual practical information as to the possibilities of wheat growing in Brazil, an organization was formed in Rio Grande do Sul and a wheat-growing expert from Germany was brought over to conduct the experiments. This expert has been at work for the past two seasons, and in the course of his work has gone over the possible wheat-bearing area of the State quite thoroughly. At first he examined the country along the railway from the city of Rio Grande do Sul to Bagé, a distance of about 150 miles. The country in the vicinity of Porto Novo and Pelotas, cities of considerable importance, and a district of which much was expected, was found to be entirely unsuited to wheat growing. Further in the interior better results were had, and the country about the rivers Candiota, Jaguarao, Jaguarao-chico, and the Negro was found to be capable of producing rather fair grain.

GOVERNMENT EXPERIMENTS.

In the course of the work experiments were conducted as far north as Cruz Alta and as far south as Jaguarao and to the west as far as Uruguayana. The territory which the investigator found most suitable to wheat growing was that of Uruguayana and Quarahy, a compartively small area in the extreme western portion of the State in a wedge-shaped district extending between Paraguay and Uruguay. Similar land suitable for the grain was also found extending along the southern border of the State from Uruguayana to D. Pedrito, but the entire area was limited.

Along the southern border of the State in the district mentioned the State purchased a number of sites for extensive experiments, the work being handicapped by the extremely high price placed upon the land by its proprietors as soon as the possibility of wheat raising became known. On the State land seven varieties of wheat were tried, those common to northern Europe, two varieties common in Italy, a new variety of Italian wheat, and the variety of wheat heretofore raised for various purposes in the State. As a result of the first year's work it was shown that the varieties of wheat common to northern Europe were not suited to growth in Brazil. The two Italian varieties, Barletta and Rieti, both acclimated to the Argentine, gave fair results. The native wheat also made good return and a new variety of Italian wheat, the Fucense, gave indications that it would probably be easily acclimated.

During the last season experiments were continued with those varieties of the wheat which had given the better results during the first season. The average result was considered that shown by one lot of land where 6 hectares of land, well sown and intensively cultivated, produced 4,600 kilos of wheat (substantially 12 bushels to the acre), the common native wheat being used. The season was exceptionally dry and the experimenters considered that this indicated a probable yield of 1,200 kilos per hectare in an ordinary year (about 19 bushels to the acre).

TIME FOR SOWING—ULTIMATE CONCLUSION.

It was found that the best time for sowing depends almost vitally upon the season. An early winter makes it advisable to sow about the middle of June (equivalent to December in the northern hemisphere). A later season makes it advisable to postpone sowing for a month. Early sowing requires about 60 to 70 kilos per hectare (about $\frac{7}{8}$ to 1 bushel per acre), while late sowing requires half as much more. Late sowings bring the harvest in better season. In growing the grain a medium depth of soil over the seed is required. Modern implements, especially drills, are an absolute necessity if the crops are to be relied upon, and it is certain that the grain can not be grown generally by the people without considerable education along practical agricultural lines.

The ultimate conclusion of the authorities and the individuals concerned in the experiments, based upon the work of the expert, is that while wheat can be produced in considerable quantity in the State it is doubtful if it can be grown commercially at the present time. The delicate nature of the crop as grown in Brazilian soil and under Brazilian conditions renders growing it a hazardous undertaking in a country where nearly all the farming is by the most primitive methods. The controlling feature of the situation, also, is that the cost of producing the grain, owing to the scarcity and high price of labor, the cost of transportation, and the price put upon land suitable for it, renders it prohibitive. With Argentine wheat admitted at a duty of 10 reis per kilo (0.386 cents per 2.2 pounds) the limited fields of Rio Grande are not likely to compete with the immense wheat district of its neighbor to the south. It seems to be established that at best Rio Grande do Sul, the most suitable district in Brazil, is nevertheless not a wheat-producing district, and that any wheat grown there would be more or less a forced crop.

INDIA'S OPIUM CROP.

OFFICIAL STATISTICS OF PRODUCTION, SALES, AND REVENUE.

Consul-General William H. Michael, of Calcutta, states that the opium department of India has recently made a report covering the season of 1906–7, which contains the following interesting statistics:

Most of the poppies grown in India are produced in the agencies of Bihar and Benares, the former embracing about 106,000, and the latter about 215,000 acres, a slight decrease in area in both agencies. The weather conditions throughout both agencies have been unfavorable, and the crop under irrigation and without irrigation is comparatively poor. In the Bihar agency the average produce per license fell from about 120 pounds to about 85 pounds during the year. The fall is due entirely to the disastrous character of the year, as the early part was unusually dry and hot, and therefore unfavorable for sowing, while the latter part was wet, damp, and cloudy, and unfavorable for the collection of the juice.

In the Benares agency also there was a fall from about 214 pounds to 196 pounds per license, attributable to the generally unfavorable character of the season, especially in the eastern districts.

The general average of the consistence of the drug in the Bihar agency for the year was 72.69 degrees, as compared with 74.68 in the previous year, showing a fall of 1.99 degrees, due to the unsettled weather before and at the time of collection of the drug. The consistence was best in Aliganj, Motihari, and Hazaribagh, where it exceeded 74 degrees, and was worst in Monghyr, where it only averaged 69.38 degrees, a decrease of 2.60 on the previous ten years' average of this subagency.

The character of the season in the Benares agency was also reflected in the consistence of the opium produced there which worked out at 67.35 degrees, or about 2½ degrees below the ten years' average consistence for the agency. This is about the same as the average for 1892–93 (67.30 degrees), but much lower figures were reached in 1900–1901 (65.80 degrees), and in 1885–86 (64.80 degrees).

VALUE OF THE CROP—CHESTS AND CAKES.

In the Bihar agency the value of opium delivered by cultivators was $1,705,085. The payments made for this opium were (1) at settlements, $773,922; (2) at weighing, $928,837; (3) at final adjustments, $88,284, giving a total of $1,791,043, or $85,958 in excess of the value of the opium.

In Benares the value of the opium delivered was $5,732,681. The payments made for this opium were (1) at settlements, $1,372,843; (2) at weighing, $3,910,749; (3) at final adjustments, $530,776; giving a total of $5,814,368, or $81,687 in excess of the value of the opium.

Two thousand six hundred and seven chests, 285 cakes were manufactured this year at Patna, against 2,283 chests, 30 cakes last year. The aggregate cost of the manufacture of this opium was $3,126, giving an average of about $1.20 per chest compared with $1.25 the previous year, showing a decrease of about 6 cents per chest manufactured. This is due to the larger amount manufactured.

At Ghazipur 473,400 pounds or 3,945 chests were manufactured during the year; and the cost of manufacture of a chest of excise ım was about $1.86 as against $1.88 in the preceding year. The

difference in the cost at the two factories is chiefly due to the difference of the average consistence of the raw opium produced in the two agencies, the Benares opium requiring more labor and manipulation to raise it to the required consistence.

During the calendar year 1907, 50,400 chests of provision opium were sold in equal proportions from Bihar and Benares, and the average prices realized for a chest from each agency were $465 and $445, against an average of $456 in 1906. The total sale proceeds in 1907 amounted to $23,058,491. The total cost of manufacture of the produce (including Presidency charges, etc.), amounted to $4,166,395 in Bihar and to $4,317,203 in Benares, or a total of $8,483,598, giving an average cost per chest of $168.33. The net revenue derived from opium during the two calendar years 1906 and 1907 amounted to $15,137,364 and $14,574,893, respectively.

LIVE STOCK INDUSTRY.

CHINA.

CATTLE SHIPMENTS TO VLADIVOSTOK—THRIFTY LOCAL DAIRY STOCK.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following report regarding cattle in the Chinese province of Shantung:

An American firm is busily engaged at this place in exporting cattle to Vladivostok, over 1,000 head having been shipped during the past month. The representative of this firm enters the interior of the province and purchases cattle directly from the Chinese owners, or in the regular market towns, where all kinds of produce are exposed for sale at regular periods of five days. Exports to the Philippine Islands were formerly made from Shantung, but, owing to the prevalence of anthrax and other cattle diseases, the importation into the islands was prohibited. Last year the Chinese Government prohibited the export of cattle from China to Vladivostok, but apparently the prohibition has been since removed. Recently the importation of cattle into Vladivostok was prohibited by the Russian Government officials, but this restriction has, according to later advices, been removed, and it seems probable that future shipments will be made.

Cattle are not grown in China to any great extent; there are no large cattle ranches, each small farmer raising such stock as he may himself need. Cows are not used for milk by the Chinese people, but are yoked with oxen, or with any other available animal, and used in cultivating the fields. Foreign buyers can afford to pay prices which appeal to the owners of cattle, and it is feared that, if large exportation continues, the country will be depleted of this class of draft animal.

COWS FOR MILK—FOREIGN BREEDS.

In a few places in the province, especially those towns where Occidentals are living, the Chinese raise cows for milking purposes, and even the better-class natives are taking kindly to the use of milk. It is the fear of typhoid germs in the milk that makes the sale of the tinned products so large among the foreign population of this country.

Efforts have been made to introduce German cattle in Tsingtau, but without success. The local cattle are apparently more or less im-

mune from the effect of anthrax and other diseases, as they continue living and thriving even with these diseases prevalent about them. Foreign cattle, however, die almost immediately. A few years ago the German Government brought out a dozen of the finest breeds of German cows, but within two weeks after arrival they had all died. Last year Doctor Martini, a German bacteriologist, for many years chief assistant to Doctor Koch, was sent out here to investigate the cattle diseases, and endeavor to eradicate them within the German territory. He informs me that so far as he can discover the prevalence of anthrax has been greatly exaggerated, although undoubtedly other cattle diseases exist.

After a year's investigation it was decided to bring out another shipment of German animals, which were sent from Germany in December last, and should have arrived here by the Government transport in February. The cattle were in charge of a chief veterinary surgeon of the army, but unfortunately the ship on which they were transported, in company with 1,100 troops, was unsupplied with cold-storage appliances, and consequently was obliged to take on a stock of cattle at Suez for fresh meat. Some of these latter animals were apparently infected, and the entire lot of German cattle died before arrival of the ship at Tsingtau.

LARGE PERCENTAGE OF FAT—BUTTER EASILY MADE.

I am informed by Doctor Martini that a most curious fact has been discovered by him and his assistants in relation to the percentage of butter fat contained in the milk of the Chinese cows. These locally grown animals are much smaller than our home cows, and give a much smaller quantity of milk, but it contains 7 to 8 per cent fat, while cows' milk in the United States seldom yields more than 2 to 3 per cent fat, and 4 per cent is considered extraordinary. This increased percentage of fat is said to be due to the bean cake fed to the animals here. Peanuts and beans are grown throughout this province in large quantities, and crushed into peanut oil and bean oil, which is exported in large quantities. The refuse from the mills is pressed into round cakes, measuring about 18 inches in diameter and 2 to 3 inches thick, which is largely exported to Japan for use as a fertilizer, and is fed to cows, oxen, and all draft animals. The bean cake when used is pounded up in rough granite mortars and mixed with the animals' food, and all domestic animals in this country seem to appreciate its peculiar flavor.

The large percentage of fat contained in the milk here makes it unsatisfactory for drinking purposes, especially for children, but it produces excellent butter in large quantities, there being very little waste material, and it is so easily manufactured that merely shaking the milk in a stoppered bottle for a few moments will produce butter.

ARGENTINA.

ANIMAL STATISTICS OF THE REPUBLIC.

Consul-General Alban G. Snyder sends from Buenos Aires a tabulated list from a report just issued by the Minister of Agriculture showing the numbers of live stock in Argentina. They total 114,842,440, divided as follows: Cattle, 25,844,800; sheep, 77,581,100; horses, 5,462,170; mules and donkeys, 545,870; goats, 2,566,800; pigs, 2,841,700.

The province of Buenos Aires contains one-half of the live stock of the Republic, having 7,000,000 cattle and 48,000,000 sheep. Entre Rios Province has 9,006,300 animals, Corrientes 7,911,000, and Cordoba and Santa Fe each nearly 7,000,000.

JAMAICA ANNATTO CULTURE.

A DYESTUFF MATERIAL MOSTLY EXPORTED TO THE UNITED STATES.

Consul F. Van Dyne reports, from Kingston, that, besides logwood and fustic, the trade in which he has already reviewed, there is another product of Jamaica which is used to a considerable extent for dyeing purposes, which he thus describes:

This is annatto (Bixa orellana), which is employed in coloring butter and cheese, and as a dye for calico, silk, wool, skins, feathers, ivory, and bone. It produces a fast color of both yellow and red tints.

The plant producing annatto dye is a native of the West Indies and other parts of tropical America. It is a small shrubby tree, attaining a height of 8 to 12 feet. It has heart-shaped leaves and bears at the ends of the branches loose bunches of rose-colored flowers. The fruit consists of miter-shaped capsules, covered with soft spinules, and splitting into two valves, on the inside of which are attached seeds covered with a thin coating of reddish waxy pulp, the botanical name of which is the testa. This waxy substance, when removed, is the dye known as annatto. The nature of this dye was known to the warlike Caribs who inhabited the Lesser Antilles when America was discovered by Columbus, and they used it as a pigment to paint their faces and bodies.

The plant is grown entirely from seed, which is sown before it is entirely dry, in nursery beds made in shady places. It is a hardy plant and will grow, in suitable climates, on almost any soil except soils that are swampy, but it gives much larger returns when cultivated on rich lands such as the banks of rivers and well-drained alluvial flats. The best climate for it is one where the temperature ranges from 75° to 80° F., and the rainfall is abundant.

PLANTING AND HARVESTING—EXPORTATIONS.

When the seedlings are about four months old, at which time they should be 6 to 8 inches high, they are transplanted, being set in holes from 6 to 12 feet apart, according to the character of the soil. The land is kept clear of weeds, which are hoed up and buried in trenches between the plants. Full crops can not be expected under three or four years, but seeds may be gathered in eighteen months or even earlier. It has been calculated that the first full crop will yield about five hundredweight of seed to an acre, and this will increase for several years.

When the capsules split open and show the seeds, they are gathered by women and children, the seeds extracted and dried in the sun. The seeds are valuable solely for the yellow waxy testa which envelops them.

The seeds are put in a tub of boiling water, and the mass is stirred so as to wash off the waxy testa from the seeds. After some days it is passed through a sieve and the liquid is left for a week to ferment, and to allow the dye to settle. The clear water is then decanted off

and the deposited dye is allowed to evaporate in shallow pans. When the substance is of the consistency of putty, it is molded into rolls, wrapped in banana leaves, and becomes the annatto of commerce. The cakes are usually packed in casks for export.

In Jamaica annatto is almost entirely the production of the peasant class. The amount of annatto exported has steadily grown. In 1882 only 147,000 pounds were exported, while during the fiscal year 1905–6 the exports reached 457,248 pounds.

Owing to the drought of last year, the crop was materially curtailed, and the exports were only 290,573 pounds. Of this, 204,730 pounds went to the United States. [The imports of annatto into the United States for the fiscal year 1906 amounted to 281,574 pounds, worth $22,156, and for the fiscal year 1907 to 651,595 pounds, worth $51,128.—B. of M.].

COLONIZATION IN ARGENTINA.

GOVERNMENT CONCESSIONS FOR FARMS IN THE RIO NEGRO VALLEY.

Consul-General Alban G. Snyder, of Buenos Aires, furnishes a translation of a decree issued by the President of Argentina covering the conditions for settling the General Roca colony in the Rio Negro Valley, it being impossible to apply the general rules of existing decrees to that region.

The preamble to the decree recites that the expense incident to reducing those lands to agricultural uses places them beyond the reach of colonists without capital, for which reason the lands possessed by parties without means are still uncultivated, while the lands of parties with capital are in full prosperity. Therefore the Executive desires to distribute those lands to persons in a position to cultivate them to their full extent, to stimulate the increase of national production. The many applications for lots by persons desiring to invest sufficient capital therein leads to the supposition that, as the works for regulating the volume of water have been completed, the colony can be settled in the form of a large industrial center, which would serve as a model to the proprietors of 500,000 hectares (1,235,500 acres) of the land in the valley of the Rio Negro; that although the law in force only permits each person or society to hold two lots this does not prevent them forming a cooperative society for the purpose of collecting funds for the execution of the works, conserving without transference the ownership of the land, etc.

REGULATING CONCESSIONS OF FARMS.

In view of these considerations the President of the Republic decrees the following regulations under which lots shall be granted hereafter to petitioners who are willing to accept the following conditions:

ART. 1. To close, level, clear, sow, and plant with their own capital the fourth part of the lots granted within two years, one-half in three, and the total in four years, being only relieved from this obligation in those parts which the agronomical inspector of the Government declares it impossible.

ART. 2. Promise to construct in the territory obtained by each party a dwelling house of at least three rooms, and to cede without compensation and as an obligatory service the necessary land for the construction of irrigation canals

to any company established for that purpose as well as to neighbors who wish to construct canals to carry water to their respective lots. The same shall apply to roads or works of public interest which the authorities may decide to execute.

ART. 3. As a guaranty for the strict compliance of the obligations imposed in the former articles they shall, before taking possession, deposit in the Bank of the Argentine Nation to the order of the general division of lands and colonies $1,000 for each lot of 100 hectares (247 acres), which, should conditions be not fulfilled or the corresponding forfeiture be filed, shall remain the property of the Government.

Said guaranty, consisting of cash or national titles at their market value, shall be returned only when all works mentioned in article 1 have been executed.

ART. 4. In future the price of land in the colony General Roca shall be $50 for each hectare (2.47 acres), payable in the manner determined by the present law, and without admitting advance in any case.

ART. 5. Those obtaining lots shall have the right to ask for a reduction in price, bringing it to $2.50 the hectare, the minimum fixed by law, provided they accept certain conditions. [These conditions may be read at the Bureau of Manufactures.]

ART. 6. In the distribution of the lots preference shall be given to the petitioners signing the petition presented to the Ministry of Agriculture under date of August 16 last, which petition has caused the present decree, and after these they will be taken in their respective order.

ART. 7. The by-laws of the cooperative society for the irrigation in the colony General Roca shall be submitted to and approved by the Department of Agriculture, Commerce, and Industries.

GINGER GROWING IN JAMAICA.

THRIVES WELL IN WEST INDIAN ISLAND—DROUGHT CURTAILS YIELD.

In stating that one of the best-known products of Jamaica is ginger (zingiber officinale), Consul F. Van Dyne, of Kingston, sends the following description of its culture and exportation:

Ginger is the dried underground stem of a plant which grows wild in southeast Asia and in the Malay Archipelago, and is cultivated extensively in South America and the West Indies, particularly Jamaica. The ginger produced in Jamaica is recognized as of superior quality and commands more than double the price of any other. The botanical name of the stem is rhizomes, the real roots of the ginger plant being the fibers which are given off from the rhizomes. Leafy shoots rise from the underground stems to a height of 1 to 3 feet, according to conditions of soil and climate. The plant bears a blossom on a stalk separate from the leaves. Ginger requires a rich soil, well drained, rich vegetable loam being best adapted to its cultivation. These conditions being met, it may be grown from the sea level to high mountainous regions, provided the rainfall be abundant or irrigation be adopted.

The plant is propagated by division of the rhizomes, each rhizome being carefully divided into small pieces, pains being taken to leave at least one shoot bud on a cutting. The cuttings are at once set out in the field in holes that have been specially prepared for the purpose at distances of about a foot apart. It is essential that the land should be well cleaned and trenched, the weeds and rubbish being buried in the trenches to enrich the soil. The best time for planting is in March or April. The plant is cultivated in much the same way as the potato. Manure is generally placed in the holes when the

planting takes place, and also spaded into the ground when the same land is used for several years in succession.

HARVESTING AND MARKETING THE CROP.

The plant is in blossom about September. Thereafter the shoots wither, and the rhizomes increase in size, and by January or February the spice is ready to gather. The plant is dug out of the soil with a fork, care being taken not to injure the rhizomes or hands, as they are termed in Jamaica. The hands vary in size, some being very large and weighing over half a pound.

After the hands are divested of the fibrous roots and all adhering mold and dirt, they are scalded for some minutes in boiling water, to destroy their vitality, and then dried in the sun, when they become the ginger of commerce. The darker kinds are sometimes bleached by exposure to fumes of chloride of lime or burning sulphur. What is known as "scraped," "uncoated," and "white" ginger is prepared by scraping the hands with a knife until the dark outer skin is removed, and then drying them in the sun. When cultivated under favorable conditions, an acre of land will produce as much as 4,000 pounds.

Ginger is shipped in bags, which generally contain a hundredweight each of the spice. There is a considerable acreage of land under cultivation of ginger in Jamaica, mostly in the hands of small settlers in the southern part of the island. During the last fiscal year about 1,400,000 pounds were exported from this island, about 650,000 pounds being taken by the United States, and 600,000 by Great Britain. Canada took nearly all the balance. The crop last year was little more than two-thirds the usual amount, because of the severe and long-continued drought in the island. Preserved ginger is prepared here and exported only in small quantities.

TEXTILES.

PRODUCTION OF SILK.

CHINA.

CULTURE OF WILD SILKWORMS IN MANCHURIA A PAYING INDUSTRY.

Consul Wilbur T. Gracey, of Tsingtau, transmits a memorandum prepared by the commissioner of customs at Antung, and published in a newspaper in China on the culture of wild silkworms in Manchuria, from which the following extracts are taken:

The wild silkworm of southeastern Manchuria, commonly called by Chinese shan-ts'an, and classified by Hosie as the Antherea pernyi, otherwise known as Bombyx pernyi and Bombyx fantoni, produces much of the silk used in the manufacture of pongees throughout China and Japan.

To the farmers of this region the industry has become a most profitable supplement to their agricultural work, for practically all landowners, whose boundaries include hilly ground, make silk raising a part of the regular routine of their household. Although in many places the hills have not the necessary scrub oaks, on the leaves of which the worms feed, it has been demonstrated that these can be easily grown, so that with nearly perfect climatic conditions there seems every likelihood of the industry expanding indefinitely to meet the increasing demand in many countries for both the wild silk and the pongee.

This probability is also increased by the announcement of two recent inventions in Tokio, which should bring tussah upon the market as a competitor with the domestic raw silks of China and Japan. The first is a new process for bleaching the silk, which will render it amenable to dyeing, and the second is a spinning machine which makes a smoother and more uniform thread than is now procurable.

PRODUCTION, PRICES, WEIGHT OF, AND MARKETING COCOONS.

Conservative estimates place the silk-producing qualities of these cocoons at from 5½ to 8 ounces avoirdupois from 1,000 spring cocoons, and the amount from the heavier autumn cocoons at from 8 to 12 ounces and from the pierced cocoons about 5½ ounces.

The cocoons of different years yield different average amounts of silk, so that their market value depends upon two factors: The price of silk and the silk-producing qualities of the season's crop. Seven or eight years ago the average price of a picul (133⅓ pounds) of wild, raw silk was £25 sterling (£1=$4.86), while the extreme quotation within a few years of that time reached 200 haikwan taels (1 tael= about 70 cents).

In 1907 the highest figure ever known to local merchants was reached, when silk sold for 206 taels per picul, whereas the average price has of late years been 162 taels.

With the cost of the raw material just covered by the returns from the silk spun, the filature owner looks to the by-product of waste silk, approximately equal in weight to the pure silk, to pay for the labor of spinning and to provide the profit.

When just fresh from the trees the autumn cocoon averages about 13⅓ pounds per 1,000; while the cocoons in the spring, after the chrysalides have been killed and dried by the exposure of the winter, do not exceed from 8 to 10 pounds. The pierced cocoons weigh about 2⅔ pounds per 1,000.

To prepare these cocoons for shipment, the countrymen put about 30,000 in a basket woven of willow twigs and shaped much like a hogshead, which he buys from the weavers at from 50 cents to $1 gold. Although these vary in capacity and weight, the average is about 30,000 cocoons, weighing 400 pounds net in the autumn, and 35,000 cocoons, weighing about 330 pounds in the spring. Two or three of these baskets are placed on the Manchurian cart, and on arrival in town the baskets are taken to the sheds of the commission houses, where they are dumped and repacked.

During 1907 the total number of such baskets leaving Antung, Manchuria, was about 26,000, with a total net weight of cocoons of over 10,666,667 pounds. Of these, more than 23,000 baskets were destined for Chefoo, China, and the balance for Japan. [The remainder of the memorandum, covering the nature of the soil, the trees on which the worms feed, and the culture of the worms, is on file in the Bureau of Manufactures.]

SHANTUNG SILK EXPERIMENTS.

WHITE FIBER PRODUCED FROM WORMS FED ON OAK LEAVES.

The following information concerning the discovery of a process for bleaching silk produced by worms fed on oak leaves is also furnished by Consul Gracey:

The silk manufactured in Shantung is of two qualities, white and pongee. The peculiar yellow-brown color of pongee silk is due to the fact that the silkworms which produce it are fed on oak leaves instead of mulberry leaves. Numberless experiments have been made endeavoring to make the silk woven by the worms fed on oak leaves as good white as that produced by the mulberry-fed worms, but it has remained for German experts to work out the process.

After the failure of a British company, some five years ago, which had made extensive and continued experiments with a solution of soda, a German-Chinese company erected a silk filature at Tsangkow, about 10 miles from Tsingtau, with the purpose of continuing the experiments, which, it is understood, have now resulted, through German specialists, in producing the finest silk made in the province of Shantung. It is similar in quality to Japanese silk, and the venture, as far as the product is concerned, is a pronounced success.

It is impossible for the company to secure a sufficient number of laborers who will remain long enough to learn the business and then continue in its service, and it has not yet been able to produce to the full extent of the factory, notwithstanding that Shantung is the most densely populated province in China—thousands of whom are emigrating annually to Siberia and other countries. [The company's address and a photograph of its works are on file in the Bureau of Manufactures.]

FRANCE.

ARTIFICIAL SILK MAKING NOT YET BROUGHT TO PERFECTION.

The ex-president of the Amiens Chamber of Commerce recently delivered a lecture on the development of artificial silk making, from which Consul William H. Hunt, of St. Etienne, furnishes the following extracts:

The three processes for the manufacture of artificial silk are the nitrocellulose, the cupro-ammoniacal, and the viscose. I have seen various samples of the fibers obtained by the nitrocellulose process, either bleached or dyed. Their brilliancy is perfect, but their resistance, especially when wet, leaves much to be desired. Here is the serious defect in all artificial silks, to remedy which all efforts have been tried in vain.

The principles of the cupro-ammoniacal process produce silk that is radiant and holds together easily. Its cost of production is less than by the nitrocellulose process. The silk produced by the viscose process has the same qualities and defects as the others, but it is more economical. To remedy the lack of resistance of artificial silk, especially when wet, hundreds of processes have been proposed, but no one of them has given satisfaction, although a producer in Lyon claims that his process is really effective.

For certain uses artificial silk may be substituted for the real silk; it has more brilliancy, but less suppleness and a different touch; its greatest defect, however, is that of being less resistant, especially when wet. Another difficulty is its specific weight, which is 10 per cent greater than the real silk and gives for the same weight a very important diminution of returns. They hope one day, however, to remedy these defects, and that the consumption of the product will become much greater.

The present annual production of artificial silk is as follows: Nitrocullulose silk, 2,645,000 to 3,300,000 pounds; cupro-ammoniacal silk, 2,200,000 to 2,645,000 pounds; viscose silk, 880,000 to 1,100,000 pounds. France produces between 1,100,000 to 1,240,000 pounds of the three kinds. The cost of production varies, according to the process employed, from $1.93 to $2.90 per kilo (2.2 pounds).

FIBERS.

MEXICO.

EXPORTS OF HENEQUEN FROM THE STATE OF YUCATAN.

Vice-Consul-General C. Piquette Mitchel reports from Mexico City that the exports of sisal hemp (henequen) from the port of Progreso, Yucatan, for the months of January, February, and March were in numbers of bales as follows:

Destination.	January.	February.	March.
United States	40,675	47,025	42,447
Canada	2,992	3,741	3,510
Cuba	906	500	2
England	348	208	----------
Spain	166	----------	----------
France	100	----------	----------
Germany	87	----------	----------
Total	45,224	51,474	45,959

It is reported that the henequen growers of Yucatan, with a view to securing better prices, are withholding from shipment about one-half of their crops, and have secured loans in furtherance of this end.

Since the vice-consul's report was written the Mexican Herald of May 23 published the following:

Many prominent hacendados of Yucatan who had compromised themselves with the Camara Agricola to hold their stock until the fiber reached 22 reales an arroba have broken faith with the organization and sold their stock, which

has resulted in the Camara Agricola being obliged to sell at 17½ reales an arroba. On account of the forced sale the speculators immediately knocked off $2 an arroba from the price, and a still further decline is expected. The sale made by the Camara Agricola was 20,000 bales.

BRITISH SOUTH AFRICA.

HEMP CULTURE PROMISES WELL IN THE COLONY OF NATAL.

Consul Edwin S. Cunningham, in transmitting a report on the fiber industry of Natal, says that he has had requests for samples of the fiber grown and dressed in that South African colony. The consul has been informed that the absence of efficient machinery for handling the fiber has prevented a satisfactory treatment of the product, and growers prefer not to send abroad samples which might prejudice the industry before the correctly treated article is ready for exhibition. Mr. Cunningham writes from Durban as follows:

The great depression which has held South Africa in its grasp the last few years has been the means of turning attention to the soil to find relief, and in Natal, the garden colony, it has met with better results than in other portions. In Natal there are also found vast areas which, for climatic or other reasons, are unsuitable for the culture of the staple articles, and, owing to their fertility, are too valuable for waste lands. To such lands many are looking, and they believe that in them is found land well adapted for fiber culture. For many years there has been some culture of fiber in Natal, but not until recently has it attained such proportions as to entitle it to be classed as one of the industries of this colony.

There are many species of fiber known to Natal, a number of them indigenous. It has been reliably stated that there are 31 species of Gomphocarpus to be found indigenous, but only two of them are likely to be of any commercial value. Samples of Gomphocarpus physocarpus have been prepared for exhibition, and reports have shown it, when properly prepared, equal to manila hemp in value, but its culture has not been extensive. The American aloe, although exotic, grows extensively in certain districts, as does the imported sisal hemp of Yucatan; the latter has been cultivated considerably, and during the past two years its culture has greatly increased.

SUCCESS WITH MAURITIUS HEMP.

The fiber plant having the most extensive growth and cultivation is called locally aloe fiber, and is probably the Mauritius hemp, or Furcroea gigantea, and the consensus of opinion seems to be that the culture of this Mauritius hemp is the most practical for the present, as the plants are easily obtainable for all possible planting; the soil and climate are wonderfully well adapted to its culture, and the fiber produced is excellent. If, eventually, sisal hemp should prove to be the better from a commercial standpoint the change from Mauritius hemp can be gradually effected. Certainly for a number of years to come the bulk of the fiber produced in Natal will be from the Mauritius hemp. A sample bale of this fiber, sent to the South African Products Exhibition in London, was reported on as follows by the director of the Imperial Institute:

The sample consisted of 5½ ounces of fairly lustrous white fiber, which was rly well cleaned and prepared. It was of fair but uneven strength. The

length of the sample was four feet. The chemical examination of the fiber gave the following results: Moisture 9.3 per cent, ash 0.9 per cent, (a) hydrolysis loss 12.7 per cent; (b) hydrolysis loss 14.7 per cent, acid purification loss 1.7 per cent, cellulose 75.5 per cent. The sample was submitted for commercial valuation to experts, who described it as corresponding fairly well with "good, fair quality" Mauritius hemp, and valued it at £26 10s. ($128.96) to £27 10s. ($133.83) per ton. At the time of this valuation Mauritius hemp was quoted in the London market at £25 ($121.66) to £30 ($146) per ton. The above results indicate that the fiber is of fairly good quality and very similar to other samples of Furcroea gigantea, which have been examined at the Institute.

The analysis shows Natal fiber to contain a very low percentage of ash, and a percentage of cellulose equal to an average found in Furcroea gigantea from other parts of the world.

TENSILE STRENGTH—CULTURAL METHODS.

Rope manufactured from the same fiber, I am informed, was sent to the Government Engineering Laboratory, Pretoria, to be tested as to its breaking tensile load, and the result was an average breaking load of 1½ inches Natal fiber rope of 6.55 tons (of 2,240 pounds), which is but slightly under that of Plymouth manila cordage rope of same size.

The plants of Furcroea gigantea are, after the land is carefully prepared by plowing, harrowing, etc., planted during the autumn in rows, usually about 6 feet apart, although the distance varies according to fertility of soil. The usual cultivation is only to keep the land free from weeds, which is the only expense to be met until the plants reach the first cutting stage at the end of the fourth year.

The question of waiting four or five years for the initial returns is a very serious one with many, and it has been proposed to minimize this expense by planting potatoes, corn, or other staple, that can be grown without interfering with fiber, and its cultivation clears the weeds. When the cutting begins the yield during the life of the plant will be about three-fourths of a ton of dressed fiber per acre per annum. Some reports are higher, but above this would seem to be considered as abnormally large. The yield in dressed fiber is about 2½ per cent, or about 40 tons of leaves will produce a ton of dressed fiber. From the limited experience in this colony, and comparing labor, etc., of Mauritius, the cost of production in Natal will not exceed $65 or $75 per ton.

THE INDUSTRY A PROMISING ONE.

During the last thirty years attempts have been made to establish the industry in this colony, when the Furcroea gigantea was introduced, probably from Mauritius. Ten years ago the first serious attempt was made near Port Shepstone, and a mill was erected, but the promoter died before any results were obtained, and in inexperienced hands it has not prospered. Within the past two years renewed efforts have been made, so that now it can be considered well settled that the fiber industry has come to remain until it is proved a success, or that the conditions are not favorable to its culture. It is in its infancy, but the profuse growth in many parts of the colony of imported and indigenous fiber plants in a wild state, from which an excellent q ality of fiber can be extracted, would warrant the belief that under) lture it would rapidly grow into an important

industry; but the future of the fiber industry in Natal must be dependent upon the crop eventually yielded by the acreage now planted.

A member of the Natal land board, in his report after returning from Mauritius to investigate fiber culture in that island, says:

There is no doubt in my mind that the aloe fiber industry will prove a useful one to our colony; and while not promising large fortunes, in a few years, without any trouble, will prove more payable than many enterprises in which our farmers are now engaged, besides making use of parts of farms, on the better land of which other crops are being grown, and bringing whole districts into a productive state. [The complete report on the "Fiber Industry at Mauritius" may be seen at the Bureau of Manufactures.]

The conservator of forests, in a recent article on the subject, says:

Taking the fiber industry as a whole, there seems to be every prospect that it will prove a valuable asset to Natal and to those who carry it on. If systematically and economically worked with the right kinds (of fiber) success is assured; but the most important point at the present is to see that the best kinds, and these only, are used.

COTTON GOODS IN AUSTRALIA.

AMERICAN FABRICS SIMPLY NEED PUSHING TO BE MORE LARGELY SOLD.

Consul Henry D. Baker, writing from Hobart, furnishes valuable information showing the excellent opportunity afforded in Tasmania especially, and Australia generally, for the sale of larger quantities of cotton goods manufactured in the United States:

Under the new tariff of the Commonwealth of Australia, as passed by the house of representatives, and likely in its main details to be confirmed by the senate, the duties on most classes of cotton goods have been fixed at 5 per cent. The consumption of cotton goods may thereby be stimulated, especially as the same tariff act materially raises the duties on many other classes of goods for clothing purposes. It would therefore seem well that American manufacturers of cotton textiles should have their interest quickened in this market and try to secure for themselves a reasonable share of the Australian business.

I have just had an interesting conversation with one of the largest merchants of Hobart regarding the opportunities for the extension of American trade in cotton textiles, and will quote in substance what he said, as his remarks show unjustifiable apathy on the part of cotton textile manufacturers of the United States in the Australian market. The person quoted is the proprietor of a large department store in Hobart, has traveled extensively in the United States, and has made quite a specialty in his own store of American-made goods whenever he thinks they possess special merit. He said:

NO SALES AGENTS—AMERICAN CALICOES POPULAR.

The only reason, in my opinion, why American cotton textiles are not sold here more than the textiles produced in other countries is not because they are not more suited for the local trade, but because reputable American houses have never seen fit to send their expert sales agents to properly explain the special advantages of their goods. There are probably at least 100 special representatives of English houses, with expert knowledge of cotton textiles, who are traveling through the Commonwealth at the present time, giving every important town a visit perhaps two or three times a year; but I know of not one American house which has any expert traveling man of its own at work in the Commonwealth. American cotton manufacturers intrust their business almost entirely to general agents at Sydney and Melbourne, who handle almost any goods they think they can sell, from a patent medicine to a bedstead.

Many of them have done so well with certain American goods, like agricultural machinery and boots and shoes, that they think they are able to be agents for almost anything that is American, and so undertake business to which they can not give proper time and attention.

If you inquire of one of these agents about any particular line, say of American calicoes, he may be able to tell you that the reputation of the house which sells them is good, but is quite incompetent to explain in what way, if any, the line of goods you ask him about excels. The people here are pretty conservative about what they buy, and it takes some convincing explanation to induce them to purchase American calicoes when they are accustomed to other kinds. I have discovered for myself that American calicoes are purer and wear longer than calicoes produced elsewhere, and if the fact were only known generally that while American calicoes are lighter, generally speaking, than other kinds, yet they are more durable, American manufacturers would, in my opinion, become in supreme command of this market. In my own establishment the sale of American calicoes is constantly increasing, and it only requires a little more educating for all persons to want them. Those I sell are invoiced from 12 cents to 40 cents per yard; the best demand is for those invoiced at from 15 to 20 cents per yard.

American cotton bed sheetings are also meeting with a steadily increasing sale here, which is also favored by the low rate of duty, which is only 5 per cent. American denims, which sell here from 7d. to 1s. (14 to 24 cents) per yard, have long outdistanced in their sale the denims of other countries, and it now seems to be generally admitted that it is impossible to compete with the United States in this trade. They also pay only 5 per cent ad valorem. The Tasmanian workingman seldom buys any other kind. American denims are being more and more used in Tasmania as clothing for boys, as they not only look well, but stand a great deal of hard usage, moreover are cheap. Only the cloth, however, should be imported, as the duty on made-up goods, which is 35 per cent, is practically prohibitive. One large use of American cotton sheetings in Tasmania is as a substitute for wall paper or plasterings in many houses back in the country.

American cotton underwear has so far very little sale here; what possibilities there are in this direction it is hard to say, as no particular effort, to my knowledge, has ever been made to exploit them. In sending samples American manufacturers should bear in mind that the cheapest grades would sell best, also that Tasmania has its winter when the United States has its summer, and that samples, say for the winter trade, should be sent at least six months ahead, the winter demand beginning in April.

It should also be stated that under the new act cotton yarns, for use in the manufacture of cordage and of textile goods, are admitted free.

EUROPEAN FLAX SOWINGS.

REDUCED ACREAGE IN HOLLAND, BELGIUM, AND RUSSIA.

According to Consul W. P. Atwell, of Ghent, it is ascertained that the present outlook for the new flax crop is so unsatisfactory that practically in all flax-producing countries a considerable decrease in the acreage as compared with 1907 is anticipated. The consul's review follows:

The sowing in Holland will be considerably less than for the preceding year, while in Belgium a similar situation is also predicted. As regards Russia, a decrease is certain, but the approximate importance thereof can not yet be definitely determined. It should, however, be remarked that in some districts no change whatever seems apparent, while in others the decrease is looked upon as probably to be of a very important nature, to the effect that it is said that it will attain as

high as 50 per cent, which would seem somewhat exaggerated. Taking the country as a whole, it may be said that the approximate decrease will be from 15 to 20 per cent.

Generally speaking, therefore, there is a poor prospect of low prices this year, while there is a decided possibility of the contrary. It may be said that at the present time Russian flax is cheaper than it has been for the past nine years.

COTTON GROWING IN KOREA.

ADAPTABILITY OF THE COUNTRY TO THE CULTIVATION OF THE PLANT.

Consul-General Henry B. Miller, of Yokohama, transmits an article from a local financial and economic journal on the cultivation of cotton in Korea, from which the following extracts are taken:

It is a well-known fact that the future of cotton planting in Korea is full of promise, and since the establishment of the Cotton Plantation Association various measures have been adopted to introduce improved methods of planting and the result has proven very satisfactory. The cultivators of cotton have each been given a farming implement regardless of the size of their holdings. Prizes have been given by the Government to those who are diligently engaging in the work. Thus everything possible is being done for the encouragement of the cultivation of the plant.

During 1907 the work has been quite satisfactory with the exception of a few plantations, and there is no room left to doubt the adaptability of the Korean climate and soil for the production of cotton. Now the question is, how far the cultivation can be extended in Korea. If things progress at the present rate, within five years there will be an area of plantation extending over 122,500 acres, and the output of ginned cotton will be 28,666,666 pounds, valued at $3,225,000. Compared with the sum realized by the old Korean method, which is 12,560,000 pounds, valued at $1,910,000, an excess of 16,106,666 pounds, valued at $1,810,000, will be obtainable. Thus if all of the plantations in Korea will use the new seeds the output of ginned cotton will be 67,200,000 pounds, valued at $7,560,000.

FORESTRY.

METHODS AND PRODUCTS.

BRAZIL.

RUBBER TRADE AFFECTED BY REDUCED ACTIVITY IN UNITED STATES.

Consul-General George E. Anderson, of Rio de Janeiro, discusses last year's rubber trade in Brazil, and the present market conditions, as follows:

The immense fall in the price of raw rubber in the markets of the world which was given an acute turn by financial conditions in the United States in the last few months of 1907 has seriously affected financial conditions in the northern States of Brazil. The major portion of the income of the State governments in the north of Brazil rests upon export duties levied upon raw rubber. The fall in the price, the reduction in shipments, and the disturbance of the trade have led to financial stress not alone measured by the traders in rubber who, in view of the extraordinary low prices, are building up large stocks of the gum, but upon every line of business. The general situation is reflected at large by the fact that the shipments of rubber in 1907 brought into Brazil a total of about $63,200,000. At the prices for the gum obtaining in 1906 this sum would have been about $78,000,000, and at the prices obtaining at the present time and apparently likely to continue most of the present year, the income from rubber on the basis of last year's shipments will amount to only $47,500,000, or $15,000,000 less than last year's income, and about $30,000,000 less than that of the year before which the governmental world had come to regard as normal. As a matter of fact at the present rate of shipments there is no certainty that the lowest figure named will be reached.

DECLINE IN PRICES.

The course of the rubber market of the world in the past two years has not been such as to promise much relief in the Brazilian market. In 1902, 1903, and 1904, save for a few spurts in the market, the price of fine Para rubber ranged about 87 cents to $1 per pound. In general, prices commenced then to rise until in May, 1905, they reached $1.44 per pound. In 1905 and 1906 in general they held their own. From January to June of last year (1907) they fell almost uninterruptedly and after a sligh [illegible] at the [illegible]iddle of the year they fell to $1.[illegible] in [illegible] the United States, wh[illegible] ca[illegible] factories for a time, [illegible]ll off in such a wa[illegible]low as

83 cents in November, since which time rubber dealers have been accumulating stocks for improved prices.

That better prices will soon come, however, with constantly increasing stocks and little increase in demand, seems impossible. The situation is further complicated by the general feeling that prices in 1905 and thereabouts were too high to last. There has been an immense increase in the acreage of cultivated rubber, and the rubber consumers of the world have come to have less worry as to whence their rubber supplies are to come. It is to be expected that the demand formerly obtaining will in time be reached again, but when it is reached the indications are that the supply will be immensely greater, even in proportion to such demand.

DEPENDENCE ON AMERICAN CONSUMPTION.

How dependent Brazilian rubber interests are upon the United States as a market has been quite effectively illustrated in the effect of changed conditions in the United States upon those interests. The course of American imports of Brazilian rubber shows that in spite of immensely increased purchases from other portions of the world the United States still takes substantially one-half of the entire rubber exports of Brazil. In 1907 the United States took, out of the total exports of 33,383 metric tons of syringa rubber from Brazil, 16,116 tons as compared with 12,264 for Great Britain, 2,285 for France, 1,956 for Germany, and 402 for all other countries. Of $61,135,462 worth of syringa the United States took $29,265,036. The total exports of all kinds of rubber from Brazil in 1907, in metric tons of 2,204.6 pounds, were as follows:

Country.	Metric tons.	Value.	Country.	Metric tons.	Value.
United States	16,811	$30,202,955	All others	488	$846,099
Great Britain	14,354	24,964,783			
France	2,506	5,040,090	Total exports	36,490	65,251,287
Germany	2,331	4,197,360			

In 1905 the United States took 16,700 tons out of a total of 35,200 tons; in 1906 it took a total of about 16,700 tons out of a total of about 34,800 tons. It is evident that anything in the United States seriously interfering with the consumption of rubber will have an important influence upon the rubber situation. The output of rubber from the several ports of Brazil last year was as follows:

Port.	Metric tons.	Port.	Metric tons.	Port.	Metric tons.	Port.	Metric tons.
Manaos	16,768	Pernambuco	90	Maranhao	21	Rio	76
Para	16,018	Bahia	1,550	Fortaleza	594	Corumba	468
Ilha	635	Santos	101	Cabadello	25		
Natal	19	Itacoatiara	117	Maceio	8	Total	36,490

CORROBORATIVE EVIDENCE.

AMERICAN STATISTICS SHOW DECREASED IMPORTS OF RUBBER.

Corroborating the consul-general's statement that the United States has been purchasing less raw india rubber it may be stated that the imports for nine months periods ending March 31, 1906–1907–1908, according to figures published in the Monthly Summary of Commerce and Finance, have been as follows:

	1906.		1907.		1908.	
Imported from—	*Pounds.*	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
United Kingdom	6,626,584	$5,153,282	8,017,749	$6,888,499	3,323,460	$2,459,460
Germany	2,839,539	2,102,333	3,288,721	2,390,958	1,866,410	1,419,046
Other Europe	6,044,569	5,283,350	7,314,064	6,196,592	4,418,673	3,143,142
Central America	977,906	584,383	900,663	606,000	759,060	484,588
Mexico	816,318	396,346	4,222,318	1,655,699	6,326,624	2,803,916
Brazil	23,286,628	18,745,522	31,165,216	25,764,383	23,178,885	14,175,650
Other South America	1,483,184	969,611	1,521,541	1,081,516	1,284,180	895,535
East Indies	1,343,099	559,378	1,726,239	840,519	979,995	550,195
Other countries	24,552	21,145	29,456	16,639	36,446	22,716
Total	43,442,379	33,815,350	58,185,966	45,440,805	42,173,733	25,954,248
India rubber, old scrap, fit only for remanufacture	20,441,800	1,412,260	21,888,154	1,883,163	14,410,221	1,358,482

FRANCE.

GOVERNMENT ENCOURAGING REPLANTING OF TREES IN CLEARED LANDS.

In reply to an inquiry from a Western forest commission, seeking information in regard to any system of forestry in France whereby the "State has succeeded in inducing individuals to act" and the financial results of applying proper forestry methods to poor lands, Consul-General Robert P. Skinner, of Marseille, reports as follows:

The French Government is encouraging individuals to replant trees on cleared lands by exempting such lands upon summits and mountain sides, dunes, and moors from all taxation during thirty years and exempting all other lands which they may replant to the extent of three-fourths of the ordinary tax rate during a like period. Furthermore, the State pays subventions to private persons based upon the importance of the work proposed or accomplished, such subventions being in the form of seed, plants, money, or labor.

The State does not content itself with scientific control of the national forest domain and the encouragement of private persons as described; it also assumes a large measure of authority over existing forests, privately owned. The following summary of the legislation defining this control has been kindly supplied by the Director-General of Waters and Forests:

Art. 219. No private property owner may exercise the right to uproot trees or clear wooded lands, except after having declared such intention at the Under-Prefecture at least four months in advance, during which time the administration may signify to such proprietor its opposition to the proposed work. Before the signification of such opposition, and eight days at least after a notification given to the interested party, the inspector, under-inspector, or one of the general guards of the region will examine the state and the situation of the wood, and will prepare a detailed report, which will be notified to the party at interest, with an invitation to present his observations. The Prefect will give his opinion upon the opposition. This opinion will be notified to the forest agent of the department, and likewise to the owner of the wood, and transmitted to the Minister of Finance, who will pronounce administratively. If within the six months which follow the signification of the opposition the decision of the Minister is not given and signified to the owner of the land the clearing may be undertaken.

Art. 220. Opposition to the clearing of private forest lands can be established only for woods the preservation of which is recognized as necessary: For the maintenance of the soil upon mountains and slopes; for the defense of the soil against erosions and the invasion of rivers and streams; for the existence of springs and watercourses; for the protection of dunes and slopes against the erosions of the sea and the invasion of sand; for the defense of the national

territory in the frontier zone, which will be determined by a regulation of public administration; for the public health.

Art. 221. In case of the contravention of article 219, the offending landowner will be condemned to pay a fine calculated at the rate of 500 francs ($96.50) at least and 1,500 francs ($289.50) at the most, per hectare (2.47 acres) of land cleared. He must, moreover, if he is ordered so to do by the Minister of Finance, reestablish the clearings by plantations of trees within a delay of three years.

Art. 222. Upon the failure of the proprietor to replant or seed cleared land, within the delay prescribed by ministerial decision, this will be done at his expense by the forest administration.

ROADSIDE TREES.

PRESERVATIVE EFFECT OF SHADE TREES ON FRENCH ROADS.

In answer to inquiries from the United States, Consul-General Skinner also furnishes the following information relative to the effect of wayside trees on French roads:

It is proposed to plant trees along the roadsides of New York State in order to keep the moisture in the road and prevent raveling, and the question has been raised whether or not the roots of such trees may spread out underneath the road surface, and eventually create great damage in a severe climate where there are extremes of heat and cold. While French roads are not always bordered with shade trees, they are so very frequently, and my information is that the trees are planted not only for furnishing shade, but in order to protect the roads themselves against the effects of excessive heat and drought. It is believed that the long dry summer season is much more inimical to roads than severe cold. The chief officer in charge of the public roads in Marseille is of the opinion that, on the whole, New York roads would be benefited if bordered with trees, suggesting, however, that only such should be planted as have vertically descending roots.

WHERE, WHEN, AND HOW TO PLANT THE TREES.

F. Birot, civil engineer, and former conductor of the bureau of bridges and highways, expresses himself as follows on the subject:

In countries where the climate is damp roadside trees are prejudicial to the maintenance of the highways, as they prevent the circulation of the air and the drying of the soil; in most of the southern French regions such plantations are, on the other hand, very useful in dry weather, as they maintain the roadbed in a state of freshness favorable to its conservation. In general, trees should be selected with high spreading branches, such as the poplar, the elm, the ash, and they should be planted generally upon the outer edge of the roadbox and at distances of 10 meters (32.80) feet). Each tree should be placed in a hole 1 meter (3.28 feet) deep and 1½ meters (4.92 feet) square, and should be trimmed to a height of 2½ meters (8.20 feet) above the surface.

The earth about newly planted trees should be loosened in March and November—in March only after the third year—and thereafter until their permanent growth appears assured; small trenches should be directed toward the foot of the tree, in order to secure the benefit of rains. Finally, the tree itself should be trimmed annually during the first ten years.

CUBA.

ISLAND'S CHARCOAL SUPPLY PRODUCED FROM NATIVE HARD WOOD.

Replying to a New Orleans inquiry for information as to the use of charcoal in Cuba, Consul-General James L. Rodgers writes from Habana, as follows:

Nearly all of the charcoal consumed in the island is manufactured locally, the industry being a large one and furnishing employment to a great many of the people who live adjacent to the tracts of hardwood timber used for the purpose. The statistics as to the consumption of charcoal are entirely lacking, but it can be stated in a general way that the majority of the Cuban people and all others resident on the island use charcoal for cooking purposes. The price varies with the locality, but it is probable that a fair average would be between 75 cents and $1 per 100 pounds in the market and delivered.

The duty on charcoal from the United States is $1.50 per gross ton. [The largest dealers in the commodity in Habana are named by the consul-general, and their addresses may be obtained from the Bureau of Manufactures.]

ASIATIC TURKEY.

THE GATHERING OF THE VALONIA CROP AN IMPORTANT INDUSTRY.

Consul Ernest L. Harris states that the tanning material, valonia, is one of the most important forest products of the vilayet of Smyrna. He gives the following facts concerning it:

It is taken from what is known as the valonia-yielding oak (Quercus ægilops) which is cultivated in Uschak, Adala, Nazili, Sokia, and on the island of Mitylene. The crop is gathered during the months of July and August, and the annual output amounts to about 140,000,000 pounds, only 13,000,000 pounds of which is produced in this vilayet, the rest being drawn from other vilayets.

The industry gives employment to about 10,000 workmen. The valonia is detached from the nut at the place of growth, chiefly by peasant women who earn from 12 to 16 cents per day. The nut, or acorn shell, is used as fuel, and the extracted valonia is shipped to Smyrna in native-made sacks of 338 pounds each.

In the Smyrna storehouse valonia is again sorted into four different qualities, where women and girls are again the principal workers. The most skillful and experienced get as high as 32 cents a day.

Prices depend upon the quality, that is, the different degrees of tanning properties contained in the valonia samples submitted. Many English leather manufacturers simply purchase the sifted powder. The principal countries which buy valonia in the Smyrna market are England, France, Germany, Austria, Italy, Russia, and Roumania. The average present prices for the four qualities of valonia f. o. b. Smyrna per 220 pounds are as follows: First, $4.75 to $5.50; second, $4.37 to $4.75; third, $3.80 to $4.20; and fourth, $2.85 to $3.20.

There is a depression in the market just now which dealers attribute to a chemical substitute recently discovered in Germany. During 1907 valonia was shipped from Smyrna to the United States to the value of $1,166. Hitherto the raw product was shipped to England and there manufactured into tanning fluid, the greater part of which found its way to America. A local firm is now erecting a factory for manufacturing the tanning fluid here.

Considerable injury was done to the valonia trade of Smyrna by mixing with the cups a large quantity of the crushed acorn, which is of no value for tanning purposes. A recent decision of the council of state decrees certain stringent measures to be taken in order to prevent continuance of the adulteration.

HOUSE TRIMMINGS IN COLOMBIA.

HOW AMERICAN MANUFACTURERS MAY BUILD UP TRADE.

In reply to an inquiry from a manufacturing company in the State of Washington, Consul Isaac A. Manning, of Cartagena, furnishes the following information concerning the house-trimming industry of Colombia:

At present the trade in house trimmings—that is to say, ready-made doors, sash, blinds, etc.—is absolutely nil, but if an effort were made a good trade could be worked up in these lines of goods. The carpenters of this country are the manufacturers of all the doors, windows, and other classes of house trimmings used here; but it would seem that there is a disposition in the country to throw off the custom of using heavy, unwieldy, and inartistic doors and replace them with the more portable and attractive panel doors of present-day use.

This change would also add to the field for sale of American door and window fastenings, those in use here at present being in the main heavy, inflexible, and inartistic. The architects would have to begin to build to better lines if they were to import ready-made fittings, for they could not make the door fit any sort of an opening, but would have to make the wall openings to fit their doors and window frames, which would certainly be in the interest of the attractive.

HOW TO BUILD UP THE TRADE.

Nothing, however, will be done with these goods until some concern sends its traveler here to place the handiness and cheapness of ready-made house fittings before the builders of the country and at the same time help the retail dealer by giving him an opportunity to dispose of a trial lot of goods. Samples must be sent so that the people can see the difference in beauty, style, and finish between the American-made panel door and the rough, heavy, inartistic door in use here.

There should be sale here for some ready-made Persian blinds for windows with mosquito-proof shutters and for grill work, but manufacturers will have to come after the business if they want it. It is not a ready-made market to be secured through catalogue work. It is a new field, and the prospective customer knows nothing about this line of goods.

Goods of this character should be packed as lightly as possible, for there are rather high duties thereon. Planed lumber pays a duty of 1.7 cents, gold, per kilo (2.2 pounds) of lumber and packing; doors and windows pay a specific duty of 5.1 cents per kilo, packing included; moldings adorned, for furniture or picture frames, pay 25½ cents per kilo.

METALS AND MINERALS.

THE WORLD'S MINES.

FRANCE.

OUTPUT AND UTILIZATION OF BAUXITE—EXPORTS TO UNITED STATES.

Consul-General Robert P. Skinner, of Marseille, reports that on account of the increasing exports of bauxite the French customs gave it a denominated place in the statistical tables of 1907, previous to which it was entered with "undenominated minerals." He adds:

According to official figures, the quantity of bauxite exported from France in 1907 was 110,915 tons, valued at $471,113. The declared value of French bauxite exported to the United States from the Marseille district during the years 1905, 1906, and 1907 amounted to $50,162, $55,787, and $108,207, respectively.

The French deposits, which were the first to be discovered, continue to be the most important in the world, both in extent and value. The first valuable beds were found in the neighborhood of Les Baux, a few miles to the west of Marseille, which accounts for its name. At present the chief sources of supply are in the department of the Var, a few miles east of this city, from which export shipments are made. From a mineralogical point of view, bauxite is a non-silicated stony earth of the oxide family. It may be compared somewhat with corundum, and with emery, which is merely a variety of corundum. Indeed, one of the chief uses to which it is put in the United States is for the manufacture of an artificial corundum. It is also utilized in the United States for the manufacture of aluminum, alum, and various refractory products. This last application is of comparatively recent origin, and is by no means so extensively generalized as in France, although it is beyond doubt that as a refracting material for lining furnaces, in which the corrosive action of the basic slag must be resisted, the utility of bauxite is very great.

SUPPLY OF BAUXITE AND ITS USES.

The consulting engineer of this city reports that in 1907 the world's production of aluminum was 25,000 tons, requiring for the manufacture thereof 120,000 tons of red bauxite; the manufacture of alumninous and refractory products consumed 180,000 tons of other bauxite; the total production of this mineral, therefore, was 300,000 tons in 1907. Since a year ago the exploitation of French bauxites has developed considerably, this being due to the fact of the creation of a number of new factories, in which use is made of processes, the patents for which have expired. Rich deposits of the mineral have been found in different localities, until now unexplored, and the newly organized companies have eagerly taken up concessions, some

of which may or may never be actually exploited. In the opinion of the Marseille consulting engineer the French bauxite deposits are inexhaustible. Almost every day new pockets are brought to light, which are not utilized. After the exhaustion of deposits of bauxites yielding from 60 to 65 per cent of aluminum, the aluminum industry will have in reserve deposits yielding bauxites containing 45 to 47 per cent of aluminum, these latter deposits being practically inexhaustible.

The refractory products manufactured from white bauxites containing from 40 to 45 per cent of aluminum are much sought in this country for use in industries where exceedingly high temperatures are maintained. Cupolas, locomotive fire-box linings, and glass furnaces are manufactured of bauxite bricks, which give special satisfaction. These products are sold at high prices. Practically the total production of white bauxite from the department of Var is shipped to manufacturers of refractory products in Belgium.

The most expensive quality of bauxite is the white ore, which yields 60 per cent of aluminum, 4 per cent at most of iron, and which is without silica. This ore is utilized in the manufacture of chemicals, and is worth from $3.57 to $3.86 per ton. Next in value comes the red bauxite, containing 60 per cent of aluminum and 3 per cent of silica, which is converted into aluminum, and is worth $2.31 to $2.89 per ton. Third in order comes a special white bauxite for the manufacture of refractory products, containing 45 per cent of aluminum, traces of iron, and much silica. These are the broad descriptions of the three standard grades shipped by French producers. [A list of the principal producers of bauxite in France, and the name of a dealer in Marseille, who is in touch with the numerous producers, are on file in the Bureau of Manufactures.]

GERMANY.

GOVERNMENT TO CLOSE SILVER MINES IN SAXONY FIVE YEARS HENCE.

Consul Thomas H. Norton, writing from Chemnitz, states that one of the oldest and best-known silver mines in Europe, that of Freiberg in Saxony, is soon to be permanently closed, after a long continued and practically uninterrupted period of exploitation, dating back to 1163. The consul continues:

During these past centuries the rich veins have formed one of the most valuable sources of income of the royal house of Saxony. Since the serious depreciation in the value of silver it has become more and more manifest that it was economically impossible to compete with the richer ores of America. For several years past instead of yielding revenue the mines have been operated at a serious loss to the State. For the current year the deficit is $220,000. Working operations have gradually been restricted and the output steadily lessened. The value of the silver mined in 1905 was only $285,000. The mines would have been closed before this had the Saxon government not shrunk from exposing the large mining population of Freiberg to the misery sure to follow a complete cessation of work. On April 28 the Saxon minister of finance announced, however, that the mines would be definitely closed in 1913. Many of the older miners in the employ of the State will be pensioned, and every effort

will be made to lessen the economic effects following necessarily upon the final execution of this decision.

Interesting in this connection, and indicative of the genuinely paternal instinct at the basis of many governmental features in Germany, is this careful provision to prevent suffering to the families and the community as a result of the relentless working of natural economic laws.

The many Americans who have gained their metallurgical training in the "Bergakademie," or School of Mines, at Freiberg, will welcome the decision of the Saxon government to still maintain this valuable institution.

BRITISH GUIANA.

DECLINE IN GOLD PRODUCTION FROM SOUTH AMERICAN COLONY.

Consul Selah Merrill, writing from Georgetown, furnishes the following information concerning gold mining in British Guiana:

Many people appear to be misinformed as to the gold production of British Guiana. Here, as in other gold-producing countries, companies have been formed, great expectations raised, and after a little the companies have disappeared. The hills far in the interior of the colony have considerable gold-bearing rock, but the extent of these deposits no one knows. When gold was first discovered there was much excitement and much money lost. Now the talk is more sober and the majority of people are advancing at a slower pace. It is thought that a word of caution may not be out of place to those who with limited means think of gold mining as a manner of investment. Gold production in this country had a small beginning; after a time it increased till a culminating point was reached; since then it has been in a state of decline, as the following statistics of production for this colony show:

Year.	Ounces.	Year.	Ounces.	Year.	Ounces.	Year.	Ounces.
1884	250	1890	62,615	1897-98	124,327	1902-3	102,363
1885	939	1891	101,298	1898-99	112,464	1903-4	90,207
1886	6,513	1892-93	133,146	1899-1900	112,824	1904-5	94,617
1887	11,906	1893-94	137,692	1900-1901	108,522	1905-6	95,044
1888	14,570	1894-95	134,047	1901-2	101,709	1906-7	86,125
1889	28,282	1895-96	126,107				

MEXICO.

NO BISMUTH ORES TO BE FOUND IN THE REPUBLIC.

In answer to many inquiries from the United States in relation to recent discoveries of rich bismuth ores in the State of Guanajuato, Consul-General A. L. M. Gottschalk, of Mexico City, furnishes the following information:

I have the honor to report that this office has received numerous communications from persons in the United States inquiring as to the recent discovery of rich bismuth ores in the State of Guanajuato. It appears to me that this report must have emanated from some unreliable source.

After investigation, Consular Agent Norman Rowe, at Guanajuato, says that none of the practical mining men nor a technical geologist,

whom he has consulted in Guanajuato, have ever known or heard of any bismuth mines in the State. The consular agent, therefore, considers the report to be absolutely without foundation. He says that there has been a recent discovery of mercury in the vicinity of Guanajuato, but that, although the property has been claimed, no development work has been attempted on it thus far.

CANADA.

NEW PLANT IN BRITISH COLUMBIA FOR REDUCING ZINC ORES.

Consul L. Edwin Dudley, of Vancouver, has just received information that the plant near Nelson, British Columbia, for the reduction of zinc ores by electric process will be ready for operation shortly, concerning which he says:

If this process is successful, it will be important to the mining districts near Nelson. Heretofore the silver-lead ores have been "penalized" for the amount of zinc which they contained. All mining men here are awaiting with great interest the trial of the new method. The experiments heretofore made seem to point to a great success of this new method of treating by the electric process ores carrying considerable quantities of zinc.

COLOMBIA.

LAST YEAR'S EXPORTS OF MINERALS THROUGH CARTAGENA.

Consul Isaac A. Manning reports that the exports of gold, silver, platinum, and specie through the port of Cartagena to various countries during the calendar year 1907 were as follows:

Country.	Gold.	Platinum.	Gold and platinum (mixed).	Specie.	Silver.
United States	$1,117,338	$57,716	$44,982	$26,991	$42,004
France	31,267	28,743	241	----------	80
Great Britain	861,418	12,138	----------	----------	----------
Germany	1,936	----------	----------	----------	----------
Total	2,011,959	98,597	45,223	26,991	42,084

FEDERATED MALAY STATES.

EXPORTS OF TIN SHOW AN INCREASE OVER LAST YEAR.

The following table, compiled by Vice-Consul-General George E. Chamberlin, of Singapore, from the report of the senior warden of mines, shows the exports of tin from the four Federated Malay States during the first two months of the year 1908, compared with the same period of 1907, the increase being 1,400 tons:

States.	1908.	1907.
	Tons.	*Tons.*
Perak	4,863	4,184
Selangor	3,349	2,661
Negri Sembilan	708	731
Pahang	355	299
Total exports	9,275	7,875

COAL AND PRODUCTS.

FRANCE.

OPENING FOR AMERICAN FUEL IN THE MEDITERRANEAN MARKETS.

In answer to an inquiry from the editor of an American trade journal, Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to the coal trade of France and the leading Mediterranean ports:

Whether or not American coal can be expected at present to find a Mediterranean market under profitable conditions is for the American interest to say. The market is here, as has heretofore been frequently reported, and standard American navigation coals probably can be sold to the chief navigation companies through local importers at an average price of 1 franc (19.3 cents) per ton less than prevailing prices for standard British coals. In years past, when well-known American coals were received here, the importers arranged with their contract buyers of English grades to supply American fuel under certain circumstances usually at a price of 1 franc (19.3 cents) less than contract terms, this difference about representing the foreign appreciation of relative values. It is probably out of the question to undertake to find a market for American coal in northern European ports. The Mediterranean markets, however, have absorbed considerable quantities of American coal in the past, and ought to take up much larger quantities in the future.

The great coaling ports to which the attention of exporters should turn are: Gibraltar, Marseille, Algiers, Genoa, Savona, Naples, Alexandria, and Port Said. Genoa is a particularly heavy importer of coal on account of the total absence of domestic fuel. The following statement shows the imports of coal at Genoa, Marseille, and Savona, in 1907, details for Savona not available:

Port.	British.	American.	All other.	Total.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Genoa	2,959,343	25,762	17,758	3,002,863
Marseille	1,087,000	* 3,500	60,000	1,150,500
Savona				1,013,890
Total	4,046,343	29,262	77,758	5,167,253

* Gas coal.

PRICES OF BRITISH COAL—THE FRENCH INDUSTRY.

The present price of Cardiff steam navigation coal at Marseille is 26 shillings ($6.32) f. o. b. Similar Newcastle coal is quoted at 24 shillings ($5.83) nominally. The present Marseille price for coals for industrial purposes taken on the docks, duty paid, is $4.44, this price applying to both English and German small coals.

The average freight rate on English coal, shipped either from Cardiff or Newcastle to Marseille, is $1.54, and the present wholesale price of ordinary Cardiff coals f. o. b. at Cardiff is $3.25 and of Newcastle coal at Newcastle $2.67. These prices would bring the cost prices, plus transportation to Marseille, up to $4.79 and $4.21 for Cardiff and Newcastle coals, respectively. Under date of February 28, important Cardiff exporters reported to their Marseille buyers that

prices had been reduced, and that work in the mines was irregular, with the feeling growing "that the bottom of the market has been reached." Detailed prices were quoted as follows:

Description.	Price.	Description.	Price.
Best admiralties	$3.95 to $4.13	Second Monmouthshire	$3.22 to $3.34
Ordinary admiralties	3.65 to 3.77	Bituminous	2.85 to 2.98
Ordinary Cardiffs	3.52 to 3.65	Smalls, best	2.37 to 2.43
Best Monmouthshire	3.40 to 3.52	Smalls, ordinary	2.19 to 2.31

With the foregoing figures and statistics before them, American coal shippers can determine for themselves whether they are in a position to compete in this market.

As to the French coal industry, the latest available figures cover the year 1906. In that year the coal consumption of France was 51,700,000 tons, and the domestic production 34,196,000 tons. In the domestic industry 326 concessions were exploited, and 178,400 laborers employed. Of the 326 exploitations, 147 showed profits and 179 losses. The net receipts of the profitable exploitations amounted to $9,810,190, and the losses of the unprofitable mines amounted to $3,194,150. The average value per ton at the mine of French coal was 13.70 francs ($2.64), the labor and cost of extraction 6.81 francs ($1.31), and the average profit per ton 1 franc (19.3 cents). The annual average production per laborer employed was 191 tons. The average daily wages paid were 4.75 francs (92 cents) and the average annual wage of each laborer 1,306 francs ($252.05). The annual profit per laborer employed, considering French mines as a whole, was 192 francs ($37.05). [Importers of coal at Marseille, Havre, La Rochelle, Barcelona, and Alexandria are listed at the Bureau of Manufactures.]

UNITED KINGDOM.

NEW WELSH PROCESS OF MANUFACTURING BRIQUETTES WITH TAR.

So many inquiries as to the newly patented Shedlock process of manufacturing briquettes with tar have reached Consul Lorin A. Lathrop, at Cardiff, from different parts of the United States that he has thought well to send forward all information that is to be obtained at the moment. The consul writes:

The process has been patented in all the coal-producing countries of the world. The United States patents were taken out in 1904 and 1907, respectively, and are numbered 774705 and 857417. The patentee has prepared, at my request, a statement as follows:

Shedlock's patented process and apparatus for the manufacture of briquettes ("Castle" brand) consists in a combination of tar distillation and the consolidation of small particles of coal (waste) of all kinds, into dense blocks of fuel, smokeless in character and possessing high calorific value. The process consists in first effecting a perfect mixture of the small particles of coal with any suitable tar, whereby each particle is covered by a thin film of tar. The quantity of tar used is entirely dependent on the nature of the coal, in any case not exceeding 6 per cent of the whole. The prepared materials are then automatically and continuously fed into and passed in thin layers through a heated apparatus, whereby the fuel materials are raised to such a temperature as to volatilize and separate the oils from the tar, which are automatically withdrawn from the apparatus and condensed, thereby providing a by-product of equal or even greater value than the tar used.

The thin film of pitch deposited on each particle of coal forms the agglutinant, which, when the materials are subjected to the necessary pressure, causes their consolidation into blocks more homogeneous and harder than the coal from which the small or waste coal was originally obtained. The fuel materials are automatically passed from the heating apparatus in which they were treated for the removal of their volatiles directly into an agitator, thence into the compressing apparatus, from which the fuel blocks issue in such a condition that they may at once be loaded into trucks or otherwise disposed of.

TRIAL AND TESTS.

The rationale of the process is embodied in the fact that the smaller quantity and nature of the pitch used than that in the present system of making fuel briquettes conduces not only to the production of smokeless fuel, but the pitch so formed in the materials is of such a dry and hard character that it has no tendency to expand and disintegrate the fuel when subjected to the intense heat of a furnace fire, but, on the contrary, in combustion opens into hard coke-like masses with clefts, thereby presenting large surface for oxidation and production of intense heat. The "Castle" fuel has been subjected to exhaustive trials in the firing of locomotive and other furnaces where a solid fire and intense heat is a desideratum, and it has proved itself an ideal fuel, smokeless and of high calorific power. It has also proved itself eminently adapted for shipment to and storage in tropical climates, having passed successfully through all the tests to which fuel under such conditions is subjected.

The "Castle" fuel possesses the further and important advantage that its cost of manufacture is 15 to 20 per cent less than other systems of making artificial fuel. Briquettes of all sizes (from a few ounces to 16 or 20 pounds) can be produced by the apparatus, the smaller sizes being eminently adapted for domestic and general manufacturing purposes, the larger sizes for shipment abroad and storage as a standby in the event of strikes or dislocation of supplies, for marine and railway purposes, as no loss or deterioration of this fuel takes place, however long it may be exposed to atmospheric changes.

The cost of a complete plant to manufacture 500 tons of "Castle" fuel (briquettes about 16 pounds each) is about £10,000 ($48,665)—a smaller output per day in accordance with the weight of the briquette.

MACHINERY FOR MAKING BRIQUETTES.

I may supplement the above with information as follows: No special machinery is absolutely necessary for the manufacture of these tar briquettes. It has been found in practice, however, that a more perfect briquette is formed with a heavier impression than can be obtained from a rotary press of the Belgian type or other existing machines. Doctor Shedlock now employs a rammer working on a die with a combination of hydraulic and mechanical power. I understand that he has patented, or is about to patent, this rammer. His interests in the patent have been sold. The rights for South Wales and Monmouthshire have been disposed of by the purchasing syndicate to a local smokeless-fuel company. Up to date no other rights have been disposed of. For the moment, therefore, it is impossible for Americans who might wish to manufacture under this patent to effect the necessary arrangements.

JAPAN.

MANUFACTURE OF FUEL BRIQUETTES—FACTORY SELLING PRICE.

Consul George H. Scidmore reports that during the year 1907 a briquette company at Nagasaki manufactured over 35,000 tons of briquettes, nearly all of which were delivered to the Japanese navy. The company's output during the current year is expected to reach 50,000 tons. This fuel is now sold at the factory at 17 to 18 yen ($8.47 to $8.96) per ton of 2,240 pounds.

FARM IMPLEMENTS.

UNITED KINGDOM.

ADOPTION OF MODERN APPLIANCES—AMERICAN MAKES IN FAVOR.

Consul Jesse H. Johnson, in reporting from Swansea that the agriculturist in Wales and in the adjoining English countries, as far as farming implements are concerned, may be said to be keeping pace with the times, says further:

The advancement in large part is due to necessity. It is now a difficult matter here to obtain farm hands, caused by the constant expansion of towns and town industries where good wages are obtained and also to the constant drain on farm laborers through emigration to western countries, particularly Canada. It is therefore obvious that the British farmer must equip himself with up-to-date machinery in order to do his work with as few laborers as possible.

It is not surprising to find that agricultural labor is difficult to obtain here and that town industries have such a fascination on the laborers when it is known what wages are paid by farmers. A list of the weekly wages, including their keep, paid by a large farmer in this country to his hands follows: Wagoner $3.65, cow man $3.40, shepherd $3.04, general laborer $3.04, boy 97 cents.

AMERICAN PLOWS CRITICISED.

On practically every farm of 50 acres and upward there are the newest self-mowers, self-reapers and binders and other recent inventions, and it is quite pleasing to find the names of American makers on many of these implements. The American machines of these classes are particularly held in high favor, but American plows are seldom seen. To get the latter implement to the fore the American manufacturer and exporter must give the matter a special study. There are in this part of the country annual "plowing matches," which are very popular with agriculturists; the work is judged by a straight furrow, good "rean," and a nice "cop." The English manufacturers pay keen attention to these matches and invariably send representatives. They give encouragement (sometimes financial) to the successful plowman to use plows manufactured by their firms.

During a conversation I had with a champion plowman who had used most "makes," he informed me that an American plow he had used was quite equal, for practical purposes, to any English made, but that the former was not suitable for "matches." He gave as his reason that the American made a good furrow, but turned the sod completely over and therefore did not leave a good "rean" and "cop." It is clear from this that it would greatly benefit our makers to send over reliable and practical representatives to attend English plowing matches and demonstrate the American article to its best advantage. The present is a very opportune time, since most farmers here still use the single furrow and comparatively few have adopted the double furrow.

It can not be gainsaid that the Britisher is very conservative, and practical demonstration is the only effectual method of convincing him and thus increasing the sale of American plows.

SHEARING MACHINES AND WINDMILLS.

A great deal of sheep-shearing is still done here by hand shears and it has taken a considerable time for the shearing machines to be recognized. In most agricultural districts here sheep-shearing competitions still exist and these meetings disclose how hard it is for the English farmer to depart from old ideas. There is an opening for the expansion of the sale of these machines.

There are a few of the old-type windmills still to be seen in this country and it is hard to account why the new steel windmills are not to be seen more frequently. In this line, again, there is a distinct advantageous opening for American manufacturers and exporters.

To get these various goods well to the front and increase their sale here the only successful way is to come into closer touch with the users. It is a mistake to establish agencies and agents in large cities like London and Liverpool. Such establishments should be in the agricultural market towns, or agents who deal in such articles should be appointed at such centers, and it is strongly recommended that reliable and expert representatives should be sent here to demonstrate the advantages claimed for American plows and other implements. Until this is done it will be a most difficult matter for manufacturers and shippers to know the exact type of article required in the various farming countries of Great Britain, where the contour of the land and nature of the soil differ so much.

NORWAY.

AMERICAN PLOWS AND CULTIVATORS INTRODUCED—OTHER OPENINGS.

Consul Felix S. S. Johnson in reporting that American plows and cultivators have been recently imported at Bergen and are preferred to those manufactured in other countries, points out further sales possibilities, as follows:

Large numbers of Norwegian-Americans are daily returning to their native land and purchasing farms, and are demonstrating to their countrymen the advantages of the American agricultural implements over those of this country. It is claimed that more work can be accomplished at less expense by American plows and cultivators, and that there are less repairs required, although prices are higher compared with the home-made article.

Manufacturers of the United States could establish a market for their spades and shovels if they would take into consideration the rocky soil of the Norwegian west coast, where a much heavier article is needed. At present the supply comes from Sweden; these spades are made in the shape of a heart, and in weight are one-third heavier than those manufactured in America. German forks, owing to a lower price, it is said, are gradually replacing those from the United States on this market.

Few lawn-mowers are used in this city, grass being cut by means of a hand sickle. A market could be established if a moderate-price machine could be sold to the local dealers at Bergen. Interested manufacturers may send catalogues and price-lists to this consulate for the use of parties who would probably buy.

MACHINERY MARKETS.

BRITISH SOUTH AFRICA.

SMALL OPPORTUNITY FOR MORE AMERICAN DRILLING EQUIPMENT.

Consul John H. Snodgrass, of Pretoria, advises that several American firms dealing in water-boring and prospecting machinery have recently made inquiries as to the opportunities for an extension of their trade in that part of British South Africa, to which he replies as follows:

The statistics secured from the customs bureau without further examination would indicate that there is a growing demand for such machinery, especially in the Orange River Colony and Rhodesia, and that the Transvaal is indeed also an attractive field for the exploitation of such products.

In the first nine months of the year 1906 there was sold in this consular district well-drilling and prospecting machinery to the amount of $569,495. The trade fell off during a similar period in 1907 to $553,045. Increases, however, were registered in Rhodesia of about $20,000 and in the Orange River Colony of about $10,000, while the Transvaal dropped from $385,090 to $324,860. The three colonies, however, purchased over 90 per cent of the amount sold in British South Africa.

HOW THE TRADE IS DISTRIBUTED.

This trade was distributed in percentages as follows: United Kingdom, 48.3; Canada, 3.5; Australia, 0.4; Germany, 2.5; United States, 44.6; Belgium, 0.1; all others, 0.6. These percentages, however, include certain agricultural implements and were not restricted to drilling machinery. In the latter line the United States enjoys an absolute monopoly, as the local government and practically all private contractors operate only American machines. The year 1896 saw drilling and prospecting at its height; at that time there were about fifty machines working on the Rand, beside many others on outside claims drilling to depths of 3,000 feet and more.

Of late an impetus has been brought about by the agricultural department, in the direction of boring for water throughout the length and breadth of these various colonies. It was started at first at the Cape and later on branched out in the direction of the Orange River and Transvaal. At the present, however, there is really a cessation of drilling on the Orange River, and there is a gradual decline on the part of independent contractors in the Transvaal because of the subsidy of $80,000 granted by this government for the purpose of assisting the farmers. The government pays half of the expense attached to putting down a hole where the farmer is willing to furnish the other half. As the government has engaged in the business outside contractors have seen fit to dispose of their machinery and to take up other kinds of employment.

NEW STYLE DRILLS FAVORED—ONE FIRM'S LEADERSHIP.

In an interview with the boring engineer of the irrigation department of the Transvaal he states that recently he has thrown out as unsuitable $60,000 worth of diamond drills and has supplanted that

machinery with percussion or jumper drills which bore holes from 6 to 8 inches. The diamond drill, according to his statement, could only be used in boring a 3-inch hole and to depths of not more than 150 feet. The irrigation department here is very much impressed also with the chilled shot drill and it is believed that it will naturally take the place of other drills heretofore used.

This machinery has been secured absolutely from American firms, though the government is particularly pleased with the machinery of one special company whose representative at East London also possesses the Orange River and Transvaal territories. Though there are three companies doing a fair amount of business, the one alluded to has been fortunate in securing pushing agents who have, at great expense, laid out a large amount for spare parts and thus have pleased the governments.

Accepting the boring engineer's statement as correct it would not pay other companies not already represented here to send out a representative and attempt to establish agencies; for there are a large number of machines idle, and there is no chance for individual contractors to secure further orders as long as the government subsidy lasts. Moreover, as the government is disposed to purchase only one kind of machine from a particular manufacturer it is not possible to secure orders from its irrigation department. There is therefore but small chance for outsiders to enter the markets of this consular district for the disposal of water-boring and prospecting machinery.

GERMANY.

POSSIBLE OPPORTUNITY FOR MATCH MACHINERY AND HAND PUNCHES.

In reply to an inquiry as to the possible opening in Germany for American match-manufacturing machines and portable hand metal punches, Consul William C. Teichmann, of Eibenstock, furnishes the following information:

Matches are neither made nor sold wholesale in this district, because there are no large cities and consequently no wholesale trade centers in the district, the retailers all buying at jobbing centers in other sections of Germany.

The matches sold here are all of the so-called Swedish kind, but manufactured in Germany. The largest supplies are drawn from Augsburg, Bavaria, through an agency at Leipzig. This is one of the largest concerns in Germany.

In the city of Aue, with 17,800 inhabitants, in this consular district, there are large manufacturers of machinery, tools, punches and stamps for making tin and other metal wares, textile machinery, table cutlery, brass and copper plates and wire, nickelware, hand presses, stencils for heavy tin plate, etc.

SUGGESTIONS TO AMERICAN MANUFACTURERS.

If for any of these lines hand punches could be utilized, and if manufacturers desire to correspond with the respective parties directly or through some European representative, I would advise them to do so in German, with the metric weights and measures given, and prices in

German money. The same advice applies to catalogues and price-lists.

If hand punches could be used in stamping mills of enameled ware there are large concerns at Lauter, Saxony, who do an exporting business to the United States. By direct correspondence with the several manufacturers much could be accomplished, although it would be advisable to ascertain in advance whether they do not manufacture similar machines and punches.

[The addresses of manufacturers in Germany who might be probable purchasers of match-manufacturing machines and portable hand metal punches, which accompanied Consul Teichmann's report, are on file in the Bureau of Manufactures.]

WORLD METAL PRODUCTION.

GERMAN STATISTICS SHOWING OUTPUT OF VARIOUS MINERALS.

From the annual report of a German metal company Consul-General Richard Guenther, of Frankfort, makes the following extracts:

Last year's production of copper, for the first time in fifteen years, shows a decrease; the world's total output in 1907 was 713,000 tons, the principal producers contributing as follows: United States 421,400, England 72,400, Central and South America 57,000, Germany 31,900, Japan 45,000, Austria 32,500, Russia 15,000. The consumption, as estimated, was in tons: United States 232,600, Germany 149,800, Great Britain 108,200, France 65,000, Russia 18,000, and Asia, Africa, and Australia together 32,600.

The world's production of lead in 1907 was about 992,800 tons, an increase of 2½ per cent over that of the year 1906. The largest share in this increase was that of Mexico, whose output of the metal advanced from 54,000 tons in 1906 to 72,000 tons in 1907. The United States produced 340,700, Spain 185,800, and Germany 140,000 tons. The principal lead consumers in 1907 were: United States 351,400, Great Britain 188,000, Germany 187,000, France 81,100, and Belgium 31,500 tons.

The tin production for 1907 was 98,700 tons; the consumption, 101,100 tons. In the latter participated the United States with 39,700, Great Britain 20,500, and Germany 15,070 tons.

The world production of zinc in 1907 was 738,400 tons, which is an increase of 5 per cent over the preceding years, the United States with 226,838 and Germany with 208,700 tons being the chief producers of this metal. In the same year the principal zinc consumers were: United States 200,000, Germany 174,900, Great Britain 140,300, and France 69,600 tons.

The nickel production in 1907 was 14,100 tons, and of aluminum 19,800 tons. Concerning the output of silver and of quicksilver in 1907 there were no complete accounts at date of issuing the report. The report says that 1907 was the most extreme year in regard to price fluctuations and price discrepancies of the metals, and it is worthy of note that the production costs in the most important mining districts have considerably increased, owing to higher wage scales and higher prices of all materials used in mining as also to the gradual exhaustion of the leads and the more difficult task in working deeper.

STOVES FOR BRAZIL.

OPENING FOR AMERICAN LIGHT RANGES AND DRUM HEATERS.

Whether or not there is opportunity for the sale of American stoves in Brazil Consul-General George E. Anderson, of Rio de Janeiro, advises that it seems to be very largely a matter of import duty. He adds:

Up to several years ago there were considerable imports of foreign-made stoves, generally of German, French, and some English makes, but for a number of years the increasing import taxation has practically shut foreign stoves out of the country. There is one firm in Rio de Janeiro which handles a few foreign stoves on orders for customers, but more than nine-tenths of the trade is supplied by stoves of Brazilian make. The introduction of many American, not to say European, appliances would be economical to Brazilians and would bring them much comfort. That such things would be welcomed in time is unquestionably true, but the necessity of introducing them by a sort of educational campaign as to their usefulness should be recognized.

The stove trade in Brazil as a whole is confined almost altogether to kitchen stoves. Even in the mountains of the northern portions of the country heating stoves are unknown. In the uplands of the southern portion a few modern stoves are to be seen, but in general the people of Brazil live without fires for warmth except such as may be had in fire grates. The sort of kitchen stove to be introduced here depends largely upon customs matters. The tariff is fixed by weight and each additional pound in a stove adds to the cost of the stove. The first necessity of the trade in Brazil, therefore, is a light stove.

PROBABLE MARKET FOR THE "RANGE" STYLE OF STOVE.

Stoves with water backs are commonly in use, as made by local manufacturers, and the "range" style of stove common in the United States would probably be found more attractive. There is a variety of wood-burning stove in the United States known popularly as "air-tight" heaters which I think could be sold here to advantage where some form of light warmth-giving appliance is needed, particularly in the higher portions of the Southern States. In Rio de Janeiro some coal is burned and considerable coke is used, but in the country at large the fuel is almost altogether wood.

The import duty on stoves is on the basis of 200 reis per kilo, 35 per cent payable in gold and the remainder in paper. This rate, to which must be added 2 per cent of the value in gold, figures out at about 4 cents per pound. A house which formerly handled foreign stoves and which made one attempt to import American goods tells me that the chief trouble with American shipments heretofore has been in the particularly bad packing which has characterized stove shipments from the United States.

In spite of the high duties an active campaign in behalf of American stoves here would no doubt be successful and with a view of establishing agencies advise American manufacturers to write to firms whose addresses are forwarded. [Obtainable from the Bureau of Manufactures.]

NEW DIAMOND DRILL.

AUSTRALIAN INVENTION THAT FACILITATES MINING OPERATIONS.

Consul-General John P. Bray reports that a trial was recently held at Melbourne in the presence of representative Australian mining men of a new diamond drill, the invention of the officers of the department of mines of Victoria. Mr. Bray describes it thus:

The leading feature of the new drill is its portability, the total weight of the machine being only 400 pounds as compared with 3 or 4 tons—the weight of the machines now in use. The Pioneer diamond drill can be worked either by hand or motive power, being capable of boring 300 feet by the former and 500 feet by the latter process. It bores a 2-inch hole, producing a core $1\frac{1}{8}$ inches in diameter. It is considered that the drill will prove a valuable adjunct in developing the mining industry in this country, as it will be the means of opening up districts hitherto regarded as inaccessible, owing to the difficulties of transporting the heavy drills now in use.

IRON AND STEEL.

PRODUCTION AND UTILIZATION.

JAPAN.

HOME PRODUCT INADEQUATE—COUNTRY'S MANUFACTURING COMPANIES.

The following statistics covering the production and consumption of iron and steel in Japan, and the quantity drawn from foreign countries to meet the growing demands of the Empire in this regard, are furnished by Consul-General Henry B. Miller, of Yokohama:

The great military, naval, and industrial expansion of Japan is calling for an immense quantity of iron. So far as the present developments indicate it is impossible to provide sufficient ore from the mines of Japan and Korea to meet the expanding wants of the country. All indications point to China as a base for Japan's iron supply.

The production of iron ore in Japan for the year 1905 was 126,798 tons and of iron 59,145 tons. For the year 1906 the production of iron from the three principal mines amounted to 40,766 tons.

Judging from all present sources of information and revelations as to the existing sources of raw material in the Orient, together with future possibilities of markets, it seems clear that if there are to be any great iron-producing plants established in this part of the world they will be established in China, where iron, coal, and lime are found in great abundance, where there are apparently inexhaustible fields of coal and minerals almost untouched, and where the expanding wants of hundreds of millions of people will furnish a ready market, and where cheap and efficient labor abounds.

IMPORTS AND PRODUCTION OF IRON.

It is impossible to ascertain the total imports into Japan of iron, machinery, etc., for military and naval purposes, but the imports of 488,434 tons of pig iron and steel, as shown in the succeeding statement, together with machinery made of iron and steel to the value of $7,084,470, indicates that the total consumption of iron and steel imported for all purposes will reach an amount between 800,000 and 1,000,000 tons per annum. This consumption, against the small production in Japan, shows the dependence of the country upon foreign imports of raw and manufactured iron products.

Notwithstanding the increased production contemplated at Wakamatsu and Muroran there is every probability that there will be an increase rather than a decrease in the importation of manufactured goods of iron for several years to come.

The appended list of imports of iron and mild steel in various forms, crude or manufactured, show that 488,434 tons were consumed in excess of the amount produced. This consumption does not include

from the Kamaishi mines, located 180 miles south of Muroran on the east coast of the main island of Japan, that are now producing about 40,000 tons of pig iron per annum, and also from a deposit of brown ore near Abuta, Hokkaido, a short distance north of Muroran. Many reliable experts, however, consider all the sources inadequate to provide even a small portion of the requirements of the works, and that ore or pig iron required to carry on the enterprise will have to be imported from China.

The cheapest and best coal in Japan for manufacturing iron is in Hokkaido, along the railway line, a short distance north of Muroran, and the supply is abundant.

The Yokohama Dock Company is situated in the harbor near the station of the Government Railway. Its subscribed capital is $1,500,000, of which $990,000 has been paid up. Of this latter amount $490,000 is allotted for the ironworks department. The company has two docks, which are respectively 514 and 375 feet long, and owns twin-screw towboats for taking vessels in or out of the docks and a floating derrick capable of lifting 35 tons. The plant and tools are said to be of modern patterns, and according to its latest published report the company has had a very prosperous year. For the six months ended November 30, 1907, the tonnage of vessels handled was 213,448, of which 60,493 tons was for foreign vessels.

During the same six months the ironworks department handled 5,564 cases of manufacturing and repairing, of which all but 538 were completed. The total receipts amounted to about $313,400, and the disbursements to $236,800, leaving a net profit of $77,000.

SHIPBUILDING AT KOBE.

The following information concerning the Kawasaki Dock Company, the Osaka Iron Works and Shipbuilding Company, the Kobe Steel Works, and Sumitoma Cast Steel Works is furnished by Vice-Consul Walter Gassett, of Kobe:

The Kawasaki Dock Company's plant, situated at the western extremity of Kobe Harbor, was purchased from the Government in 1886, and formed into a limited liability company in 1896. The capital stock of the company is $5,000,000, with a bonded debt of $2,500,000. The company employs 9,000 workmen. There is no proposition under consideration at present to increase the works or issue additional stocks or bonds.

They have now on the stocks in process of construction the following vessels: Two, of 8,600 tons, for the Nippon Yusen Kaisha; three, of 6,000 tons, for the Osaka Shosen Kaisha; one, of 2,000 tons, for the imperial navy; one destroyer and three torpedo boats for the Siamese Government.

The company has nine shipbuilding berths; a graving dock (length 425 feet 6 inches, width of entrance at top 63 feet 6 inches, width of entrance at bottom 51 feet 7 inches, depth over sill 23 feet 9 inches), and two patent slips, 280 and 180 feet in length, respectively. In addition to this shipbuilding plant, the company lately purchased 30,000 tsubo (180,000 feet square) of land, and erected a steel foundry, which commenced work about the middle of last year.

The company is now simply manufacturing electric motors for use in their own mines, and are not taking any outside orders, but is go-

in the course of a few years to 200,000 or possibly 300,000 tons, but even the last figure is insignificant for a country with a population of 50,000,000 people. I have little doubt but that Japan will always be essentially dependent on other countries for its iron ore, and will probably continue to be, for many years at least, an important importer of pig iron and steel as well. The Chinese ores which I saw at Wakamatsu interested me exceedingly.

IMPORTS OF MACHINERY AND ELECTRIC APPLIANCES.

Of the imports of iron and steel from the United States there was an increase of but 18 per cent in 1906, as compared with 1900, but the increase of imports of machinery of various kinds, made wholly or largely of iron and steel, was from $859,415 in 1900 to $2,601.146 in 1906, while imports from all countries combined increased from $2,566,664 in 1900 to $7,084,470 in 1906. This is a most gratifying showing for expansion of trade in machinery made of iron and steel, and it is largely along this line that American trade with Japan is likely to continue to grow.

The lead which the United States has in the trade in electrical machinery and appliances is almost certain to continue. The question of the development of the iron and steel production in Japan, therefore, is of special importance to that class of manufacturers in the United States. The following statement shows the imports of machines and machinery and electric appliances into Japan in 1905 and 1906, and the imports from the United States during the same years:

Articles.	Imports from all countries.		Imports from the United States.	
	1905.	1906.	1905.	1906.
Electric-light apparatus and instruments	$316,328	$247,785	$232,251	$170,203
Electric motors	1,227,712	704,158	529,874	430,964
Fire engines and pumps	291,408	355,549	132,487	167,677
Implements and tools for farmers and mechanics	288,487	417,637	103,710	211,982
Lifting machines	210,660	543,070	67,737	93,242
Locomotives	1,233,280	829,976	471,182	472,773
Drilling and boring machines	212,879	312,029	119,342	124,222
Mining machinery	244,670	128,153	166,915	70,347
Paper-making machinery	200,820	194,513	115,568	109,480
Printing machinery	128,347	175,673	37,191	67,889
Sewing machines	294,392	260,720	176,380	142,542
Steam boilers and engines	1,316,517	1,081,062	14,613	2,902
Spinning machinery	709,673	1,219,942	447,112	323,349
Turning lathes	1,674,809	560,203	851,418	213,574
Total	8,349,982	7,030,470	3,865,780	2,601,146

A NATIONAL STEEL FOUNDRY—YOKOHAMA DOCKYARDS.

The Japan Steel Foundry (Limited), capital $5,000,000 gold, is a combination between the Hokkaido Colliery Steamship Company, a large and prosperous concern engaged extensively in mining and transporting coal, and the Armstrong, the Vickers, and the Maxim companies of England. The company is organized for the purpose of producing iron and steel at Muroran. It has the support of the Japanese Government, and is expected to produce material to be used by the Japanese navy and army, as well as for the general public. It is reported that a Japanese vice-admiral has agreed to accept the post of superintendent of the new works, at the same time retaining his position in the navy, and many expert naval officers are expected to assist in the construction and in the operation of the new establishment.

It is expected to secure the raw material for the operation of this extension plant, first, from the iron sand on the Hokkaido seashore

from the Kamaishi mines, located 180 miles south of Muroran on the east coast of the main island of Japan, that are now producing about 40,000 tons of pig iron per annum, and also from a deposit of brown ore near Abuta, Hokkaido, a short distance north of Muroran. Many reliable experts, however, consider all the sources inadequate to provide even a small portion of the requirements of the works, and that ore or pig iron required to carry on the enterprise will have to be imported from China.

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ing to undertake the construction of large vessels at Kobe, as a part of the work of the main dockyard at Nagasaki, and a vessel of 6,000 tons for the Osaka Shosen Kaisha will be commenced at once.

WORKS AT OSAKA.

The first shipbuilding yards of the Osaka Iron Works were established in 1880 at Ajikawa, on a tongue of land in the river, with a water frontage on both sides and an area of 10,000 tsubo (60,000 feet square). Here are, besides the general office, a solid masonry graving dock, the foundry, machine, boiler, and smith shops. There is also a pipe foundry, which covers 54,000 square feet of ground and contains 3 cupolas with a capacity of 15 tons of pipe per day. Air for these cupolas is supplied from 5 blowers.

The new shipbuilding yard was opened at Sakurajima in 1899 and has a water frontage of more than 1,000 feet. It is situated a quarter of a mile from the mouth of the river and half a mile from the pier in the harbor, and is equipped for building all sizes of steam vessels. The river at this point is 1,000 feet wide, and ships having a draft of 18 feet can be launched. The yards for building wooden vessels are located across the river, and are fully equipped for the purpose. On the opposite side of the mouth of the river from the shipbuilding yards at Sakurajima are the Temposan docks, which the firm has recently taken over from the city of Osaka. They are used principally for the repair of vessels, having two docks, one large enough to take ships up to 1,500 tons. The firm employs 4,000 workmen.

Among the works at present on hand the firm is constructing 2 passenger steamers of 1,650 tons each, 1 twin-screw oil tank steamer, 1 passenger steamer of 800 tons, 1 of 750 tons, 1 customs service steamer, 5 bucket dredges, cast-iron pipes for waterworks, 2 floating cranes of 20 tons, 1 of 15 tons, 3 crane pontoons, and 1 steel whaleboat.

This foundry produces steel by the Siemens system, and the capacity of one charge is 15 tons. They also make their own gas by which the ore is heated. The machinery is run by electricity, and in the building are two 20-ton and two 5-ton electric cranes. They have recently put in a large hydraulic press of about 2,000 tons pressure, and can now manufacture cast-steel rudders, stern frames, propeller blades, brackets, and stems, steel gearing, pistons, cylinders, and engine castings, ingots, slabs, blooms, billets, and bars of all sizes, forged marine cranks and straight shafts of heaviest description, and all sizes of boilers and marine and land engines.

The company is now manufacturing cars and engines for the Nan Kei Railroad Company, but can not manufacture guns for naval purposes, as it is against the law for them to do so, not being a Government arsenal. They also have a foundry at Hyogo, covering 30,698 tsubo (184,788 square feet) of ground.

KOBE STEEL WORKS—SUMITOMO CAST STEEL WORKS.

The Kobe Steel Works is a private concern situated near Kawagano, about 3 miles from Kobe, on the Hanshin electric railway. They use acid open-hearth furnaces, one of 8 tons and one of 5 tons. There are 3 steam hammers and 2 electric traveling cranes of 10 tons and 5 tons, respectively. The work turned out is principally marine cast

ings and forgings for men of war, mining machinery, and railway material. They employ 300 workmen.

The original site of the Sumitomo foundry was in Kita Denbo, along the Denbo River. In 1905 new works were established opposite the Osaka harbor works. On about 12 acres of this site the buildings were erected, one of which is a foundry 75,600 square feet in extent, equipped with 4 electric overhead traveling cranes of from 10-ton to 36-ton lifting capacity. These works turn out yearly 7,200 tons of steel castings by the Siemens system. In the central steam-generating station 4 water tube boilers of 212 horsepower are installed. In the central electric-generating station about 300 kilowatts are generated, from which power is transmitted to the overhead cranes and other motors. About 450 workmen are employed, and the work turned out consists of all sorts of finished steel goods, such as rudder frames 25 feet high, anchors 6 tons in weight, various-sized parts of machinery, etc. There are several small works of this kind in both Osaka and Kobe, those described being larger ones only.

MITSU BISHI DOCKYARD AND ENGINE WORKS.

The following report is furnished by Consul George H. Scidmore, at Nagasaki:

Two steamers, the Tenyo-Maru and the Chiyo-Maru, each of 13,600 tons, were launched by the Mitsu Company for the Toyo Kisen Kaisha, and are expected to begin service at an early date on the San Francisco line. For the Nippon Yusen Kaisha's European line the Kamo-Maru, of 8,770 tons, was also launched. The total tonnage thus completed is 35,770. All these vessels are fitted with turbine engines and are built to the highest class under Lloyd's survey. The company is now engaged in building 12 vessels, with a total gross tonnage of 90,620 tons and 81,550 indicated horsepower. Half of them will be launched this year, the balance in 1909 and 1910.

This company imports most of its material, including heavy castings, but is well equipped for repair work and construction in nearly every branch of shipbuilding, and is adding to its plant. The Mitsu yards are equipped with two large floating docks. Aside from the Government foundry at Wakamatsu and the navy-yard at Saseho, no other extensive iron and steel works are in operation in this district.

STEEL WORKS AT WAKAMATSU.

The following is a British report on the operation of the iron and steel works at Wakamatsu:

The Imperial Japanese Government iron and steel works at Wakamatsu, in Kiushiu, were formally opened on October 18, 1901, rather more than ten years after the first definite proposal of the Government to the Diet for the establishment of model iron and steel works which would render Japan independent of foreign countries for her supply of iron and steel manufactures. The total amount of the sums appropriated for the establishment of the works amounted to nearly $10,000,000. The area of the works is about 330 acres, including some 82 acres of ground recently purchased for the purpose of enlargement and not yet built upon. The exact situation is Yawatamachi, Onga-Gori, Chikuzen Province, in the northwestern district of the island of Kiushiu. It is quite close to Wakamatsu, the chief port for the export of Kiushiu coal, and about 9 miles west of Moji, the well-known coaling port on the Shimonoseki Straits and northern terminus of the Kiushiu Railway. The position was chosen largely on account of its proximity to the Chiku-Ho coal fields, by far the most

extensive coal-producing district at present known in Japan. This district lies some 30 miles to the south of Wakamatsu, in the provinces of Chikuzen and Buzen, and covers an area of over 300 square miles.

By means of a branch railway coal now can be carried directly to the works from their own mines at Futase, in Chikuzen Province, a distance of 30 miles. An extensive addition of machinery is about to be made at this mine, including an electric power house, equipped with turbine, surface condensing plants, and pumping machinery, all of British manufacture. The present output from the mines is not sufficient to meet the demands of the works, supplementary supplies being obtained from privately owned collieries at Miike, in Chikuzen Province, and the island of Takashima, near Nagasaki. There are two blast furnaces in working order and one in course of construction, to be completed in 1907. The two furnaces now in use produce 300 tons of pig iron in twenty-four hours, one giving 175 tons and the other 125 tons. The ore used at the furnaces is hematite, with some magnetite and limonite. About 80 per cent of this ore comes from the Dayen mines, near Hankow, in China, under special contract with the Hang Yang Ironworks, owners of the mine.

An irregular supply of hematite ore is obtained from Chorem and Katsuzan, in Korea, and a contract has recently been concluded for an annual supply of 10,000 tons of limonite ore from Abuta, in the Province of Iburi, in the Hokkaido (or Yezo) the northern island of Japan. About 12,000 tons of limonite are obtained annually from Yamahara, in Minasaka Province, and small quantities from the Provinces of Tosa and Buzen. It is fully realized that the primary object of the Imperial Steelworks can not be attained while Japan is dependent on foreign countries for the greater part of her supply of raw material. Two mines have been purchased at Akadani and Kama, in Echigo Province, and works were commenced in the former some six or seven years ago, but a committee of inquiry reported that the cost of freight to Wakamatsu would render the undertaking a financial loss.

EQUIPMENT OF GOVERNMENT WORKS.

There are three principal departments in the works, viz, (1) the pig iron, (2) the steel, and (3) the rolling mill. Besides these there are electric central building, central pumping station, iron foundry, repairing shop, pattern shop, foundry and storage, boiler shop, smithy, chemical and mechanical laboratory, inspection bureau, and fire-brick plant. The buildings are lighted throughout by electric light. There are at present two Bessemer converters with a capacity of 150 tons each per twenty-four hours, one charge amounting to 10 tons. In three years' time a third plant will be completed, according to the designs drawn up by the German expert in charge of the Bessemer department. There are now 8 Siemens-Martin furnaces, putting out about the same quantity of molten steel per twenty-four hours as the two Bessemer converters—i. e., 300 tons. A great part of this steel is taken in 5-ton ingots direct to the plate mill.

Under present conditions the works are able to turn out about 90,000 tons of finished material a year. The original plans were for an annual output of 60,000 tons, which would have satisfied one-half of the demands of that time, but the success of the venture and the steady increase of Government requirements have brought about a sensible extension of the original programme. In the course of the next five or six years it is confidently expected that the annual output will amount to 180,000 tons—i. e., double the present output. By far the greatest portion of the products goes to the imperial navy department, the remainder being purchased by the war and railway departments. Materials used at the various arsenals in Japan—Tokyo, Kure, Saseho, Osaka, Yokosuka, and Maidzuru—are largely supplied by the Imperial Steelworks. Practically all the materials for the building of ships of war are now turned out at the works. It should be noted, however, that armor plate is not made here.

The number of skilled and unskilled workmen employed at the works is about 7,000, with 3,000 coolies, bringing the total number of employees up to 10,000. The daily wage paid varies from 9 cents to 90 cents (United States currency). In addition to the building already mentioned there are two hospitals about half a mile distant from the works. Both are equipped with a fully qualified medical staff and modern appliances. At present there are 300 wooden structures for the residence of workmen, and 1,500 are being built. According to a three-years' programme the total number of dwelling-houses is to be 3,000.

CHINA.

LARGE PLANT PRODUCING PIG IRON AND STEEL AT HANKOW.

Vice-Consul-General Willard B. Hull, of Hankow, states that situated in Hanyang, just above the city of Hankow, there is being operated one of the largest manufacturing plants in China, the Hanyang Iron and Steel Works. Having received many inquiries from the United States regarding this industry, Mr. Hull submits the following description:

Looking down upon this plant from a neighboring hill the observer is reminded of the iron manufacturing districts of the United States; huge chimneys, grim looking blast furnaces, and acres of roof covering the steel plant meet the eye. The works stand as an example of what the foreign-educated Chinese can do under proper conditions.

The ground upon which the works now stand was originally a swamp, covered by the river in high water. Viceroy Chang Chih-tung, while in Foochow, had ordered machinery for a steel plant in that place, but just as the machinery was arriving he was transferred to Wuchang. He brought the machinery with him, selected the swamp in Hanyang as a place that could be filled and made suitable for the works and had the machinery erected. A veritable mountain of the finest iron ore was found at a place down the river called Tayeh, and coal was already being mined in large quantities at Pinghsiang, Kiangsi, about 200 miles up the river. The swamp was filled in to permit the construction of the buildings, and at the time of the building of the Peking-Hankow Railway, in 1898, the plant was able to supply all rails used on the entire line.

REPLACING OLD MACHINERY WITH NEW.

The venture, however, was not at first a profitable one. The managing director, realizing that the works could not pay in the condition in which they were, took steps to secure more modern machinery and to enlarge the mills. All slag from the blast furnaces was used to fill up what remained of the surrounding swamp, thus giving them a much larger area. For the last two years machinery has been arriving from England and Germany to equip the new plant. The Bessemer steel furnaces have been torn out and are now replaced by modern open-hearth furnaces, basic. The steel mills have been greatly enlarged and fitted in the most modern ways, the majority of the machinery being operated by electricity. The works now cover an area of 120 acres and employ 3,450 Chinese laborers, and 20 foreigners as engineers, electricians, and foremen.

Two blast furnaces are now in operation, the daily output of pig iron being 250 tons, and another modern blast furnace of 250 to 300 tons' capacity per day is now in course of construction. Three open-hearth steel furnaces, the daily output of which is 200 tons, are now working and a fourth furnace is just being completed. The steel plant adjoins the blast furnaces and when all improvements are finished the molten iron will be draw ; furnaces into large crucibles on trucks and remo ick to the steel furnaces without cooling, as th y to do.

The Chinese workmen in ry and afford plenty of cheap labor. Ski mill men re-

ceive $5 to $40 United States currency per month, the average price, however, being about 30 cents per day. Coolies and common laborers are paid about 200 cash (10 cents) per day.

The iron ore is brought to Hankow from the mines in steel lighters, tug boats running up and down regularly. The coal and coke from Pinghsiang is carried down in native boats, which are roughly put together for the one trip down, and after discharging their cargo are knocked to pieces and sold as lumber. The output of iron ore at the mines is 1,000 to 1,500 tons per day, not all of this amount coming to Hanyang, however, as large quantities are shipped direct to Japan. The iron ore analyzes SiO_2, 5 to 7 per cent; Fe, 65 to 68 per cent; P, 0.1 per cent, showing a remarkably high percentage of iron. The coke-making coal used by the works analyzes: Ashes 10 to 15 per cent, and gas 25 to 28 per cent. The coal mines at Pinghsiang, Kiangsi, are now producing 1,200 to 1,500 tons of coal per day, which, it is expected, will be increased to 3,000 tons a day in the course of a few years. Coke is made at the rate of 400 tons per day and is of a good quality and very suitable for blast-furnace work. About 180 coke ovens are now in use at the mines.

PRODUCTS AND ANALYSIS—ENLARGEMENT PLANS.

The products of the Hanyang Iron and Steel Works are structural steel materials, bar steel, steel sheets and plates, angles, T-bars, steel beams, bulb plates, and railway materials such as standard gage 50 to 100 pounds to the yard, rails, narrow-gage rails, flat and angle fish plates, steel ties, frogs, spikes, nuts, bolts, etc. All steel is made by the Siemens-Martin process and supplied to pass tests and requirements of British Lloyds, British Board of Trade, Bureau Veritas, German Lloyds, etc. The works are provided with testing machines and chemical laboratories in charge of qualified men, and all steel materials, whether inspected or not, undergo a thorough mechanical and chemical test. The analysis of the pig iron is as follows:

No.	Si.	Mn.	P.	S.	C.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
I	2.5–3	0.5–1	0.1–0.0	0.02–0.04	3.2–3.5
II	2–2.5	0.5–1	0.1–0.0	0.02–0.04	3–3.2
III	1.5–2	0.5–0.9	0.1–0.2	0.04–0.05	3–3.2
IV	1–1.5	0.5	0.1–0.2	0.05–0.08	2.5–3

The scale of steel qualities is as follows:

No.	Tensile strength.		Elongation (length between marks, 200 millimeters).	Carbon.
	Kilos per millimeter.	Tons per inch.		
			Per cent.	*Per cent.*
(0)	36	23	28–32	0.08
(1)	36–40	23–25.5	25–30	0.06–0.1
(2)	40–45	25.5–29	22–27	0.1–0.15
(3)	45–50	29–32	19–24	0.15–0.2
(4)	50–60	32–38.5	16–21	0.2–0.3
(5)	60–70	38.5–45	12–17	0.3–0.4
(6)	70–80	45–51	8–12	0.4–0.5
(7)	80–90	51–57.4	4–8	0.5–0.6

I have been informed recently that the Hanyang Iron and Steel Works were about to reorganize and become a stock company, and

that it was their intention, not only to continue with the enlargement of the ironworks, but also to erect about 6 miles down the river from Hankow a large plant for the manufacturing of steel bridges, cars, and other railway equipment, and also all kinds of heavy structural material. It is said that 3,000,000 taels (tael now about 68 cents) will be the paid-up capital of this new company. It is also reported that in the near future the ironworks expect to erect a large cement works in Hanyang. The slag, which has heretofore been thrown away or used for filling, will be utilized in the manufacture of the cement. The American manufacturers of machinery suitable for this new steel factory and cement works should take advantage of this opportunity to sell machinery for their equipment, as I understand that practically none of it has been ordered yet. English and German companies are already active in trying to secure the orders.

An idea of the already large iron business of this place may be gained from the customs figures covering exports for 1907. During that year there were 37,000 tons of pig and manufactured iron exported, valued at $837,993 gold, of which 1,500 tons went to New York, via Suez, in July. The same year shows 105,690 tons of iron ore, worth $187,670, exported, the bulk of it going to Japan direct.

BRAZIL.

LIMITATIONS TO THE USE OF STRUCTURAL STEEL IN BUILDINGS.

The following report concerning the use of steel building materials in Brazil is furnished by Consul-General George E. Anderson, of Rio de Janeiro, for the information of American manufacturers:

The possibilities of the trade in steel building materials in Brazil have appealed to a number of the largest American manufacturers of such materials, and there is a well-defined movement to get into the trade in Brazil and South America generally. The nature of inquiries made, however, indicates that there is no proper appreciation of the position of this trade in Brazil at the present time, nor is it likely that it will reach the expectations of many American exporters for some time. There is a limitation to imports of structural steel owing partly to the limited use of steel in the construction of buildings. Another consideration is the high tariffs, which specially affect some lines of what are practically American specialties in building materials.

CONSTRUCTION OF RIO DE JANEIRO BUILDINGS.

Rio de Janeiro has nearly a million people. In spite of the high price of real estate in the central portion nearly all the business houses are three stories, a few are of four, still less of five, and the only two above five stories are those of two newspapers—one of seven and the other of nine stories, the latter being the only building in the city built upon a steel frame, and involving more or less of what is generally known as "sky-scraper" construction. This general use of low buildings is not due to fear of earthquakes or to building regulations, but to the conservatism of Brazilian business men, largely foreign in connections and experience, and to local building conditions.

Buildings in Rio de Janeiro, as the representative city of Brazil, so far have consisted almost altogether of those constructed of stone and those constructed of brick and plastered over to represent stone. Owing to the climate none other than damp-resisting materials can be used. Wood has been out of the question, owing to ravages of white ants and other insects. The use of stone for substantial buildings has been common on account of necessity and of cheapness. The surrounding hills are composed of granite of fair building quality. Stone costs but little more than the labor of preparation and transportation. The alternative has been soft brick overlaid with a cement preparation. Low buildings, without the accustomed "show fronts" of American buildings in cities, do not require steel. For strength and economy general and principal partitions are built from the ground up, affording little room for steel lath or anything of the sort. With stone reasonable in price there is no material economy in the use of concrete blocks. Unless, therefore, there is need of buildings upon the modern principle, such as are common in American cities, there is little use for structural steel.

Further development of the city may lead to changed building conditions and the use of more metal in construction, but at present the trade is small and orders are of corresponding size. The agent of an American concern interested in this trade says that American firms have found no profitable business in this line, and could not take the trade with benefit unless they could secure contracts for extensive work. What steel is now imported comes almost entirely from Belgian and German houses. The saving clause in this connection is that as to the possibility of securing extensive contracts. There is no question but that the erection of a few modern buildings in Rio de Janeiro will lead to the erection of others.

CUSTOMS REQUIREMENTS—TRADE OUTLOOK.

As matters now stand customs requirements in Brazil work to the disadvantage of American exporters of structural steel specialties. Most American manufacturers in this line base their claim to public patronage upon the fact that their products have some special nature, shape, or application, which renders them more valuable than ordinary steel rods or plain steel beams or structural iron, so-called. This fact, in the purview of the customs laws, renders them a finished product rather than a raw material—a manufactured product instead of the means of furthering a native industry. The result is that most of the American specialties must pay a duty of from two to four times that paid by the more common article.

For instance, an American manufacturer of a special system for reenforcing concrete states that its product is dutiable at 400 reis per kilo. This figures out, proportion in gold and all, at about 7.7 cents per pound plus 2 per cent ad valorem for port dues. Plain iron rods or structural rods which can be brought within that class are dutiable at 1.8 cents per pound, and general structural steel 20 per cent ad valorem and an additional 2 per cent ad valorem for port dues. The product of the American concern is little more than plain bars and in a completed building bears the same relation to the whole as bars so employed would bear, but the tariff rules treat it as an American specialty. Such instances might be related in

great number, illustrating some of the difficulties of the trade and explaining how and why it is that the trade is not in as great volume as it might be.

Brazilian builders do not take kindly to steel and concrete construction in general, largely for the reasons outlined and also because they are not accustomed to it, and any extensive steel construction means the importation of labor to deal with. Until they become more favorable, American manufacturers will find it difficult to interest them in the trade. At the same time the value of property in Rio de Janeiro is great enough to require buildings more and more on the American style, and for the revolution in building in Brazil, which is bound to come before long, which is indeed now coming, in the construction of the newspaper buildings referred to, American structural iron makers should be prepared.

FRANCE.

INCREASED OUTPUT SHOWN IN FINISHED STEEL PRODUCTS.

France is making rapid progress in the manufacture of steel, having produced 2,677,805 metric tons of ingots in 1907 as compared with 2,436,322 metric tons in 1906 and 2,240,284 metric tons in 1905.

The production of finished steel products was as follows in metric tons:

Description.	1907.	1906.	1905.
Rails	297,762	328,474	303,475
Tires	43,845	41,057	22,959
Beams	107,488		
Various shapes	[a] 320,295		
Merchant bars	397,621		
Machinery	95,302	891,034	754,894
Wire	57,803		
Tubes and pipe	34,737		
Tin plate	36,578		
Sheets and plates	352,042	366,080	312,712
Forgings	33,570	29,773	22,762
Castings	31,505	26,549	25,269
Total	1,808,548	1,683,567	1,442,071

[a] Out of this total returns aggregating 160,144 tons lump together beams, shapes, and bars, and 69,318 tons cover various finished products not specified.

FINANCES.

BANKS AND BANKING.

GERMANY.

SAVINGS BANKS DEPOSITS GUARANTEED BY THE MUNICIPALITIES.

In furnishing the following information concerning the savings banks of Germany, Consul Robert J. Thompson, of Hanover, reports that the deposits are absolutely guaranteed by the public property and taxing powers of the municipalities:

The savings banks of Germany have some 19,000,000 pass books out and their deposits amount to 13,500,000,000 marks ($3,213,000,000). These deposits are practically all guaranteed by the various municipalities of the Empire, and the condition forms a bulwark of confidence in the security of private wealth and earnings that can not be shaken by hard times, panics, bank failures, etc.

An examination of what might be termed the financial page of a local daily paper discloses the advertisements of five different institutions absolutely insuring savings and trust funds, and paying from 3½ to 4 per cent per annum interest on the same. These advertisements are explanatory and helpful toward a general understanding of a condition that is practically universal throughout the German Empire and which, so far as the establishment of confidence is concerned and the encouragement from this standpoint as well of the receipt of a good fair rate of interest for money deposited, would seem to leave nothing to wish for in the way of bringing into use and circulation the savings and cash possessions of the whole population. It will be seen that the municipal or city government stands good for the deposits with its taxing powers which put such deposits on exactly the same basis, so far as security goes, as a city or county bond, which is perhaps as good a guaranty as has been devised. At any rate the thrifty German considers himself well secured by the guaranty of his own city.

GUARANTY AGAINST LOSS IN SAVINGS BANKS.

Of the five mentioned advertisements of savings banks in the local newspaper, two will serve as illustrative of the whole:

(1) Open on working days from 8.30 a. m. to 1 p. m. and from 3 to 6 p. m.; depositors guaranteed by the administration; interest on deposits 4 per cent; withdrawals on demand; safety vaults rented; family pass books issued.

(2) Open every working day from 9 to 12 a. m. and from 3 to 5 p. m.; also on Saturdays, as well as on the first and last working days of the month, until 6 p. m.; savings deposits guaranteed by the city of Hanover; interest 3½ per cent. For deposits made on the first five working days of the month interest is allowed from the first day of the month; in other cases interest begins on the first of the following month. On deposits recalled on the last working-day of the month interest is allowed for the month. As a rule deposits may be withdrawn without term of notice. In addition to the ordinary savings bank pass books, books for wards as well as time-deposit books and rent saving pass books are issued.

With one exception—where a city savings bank was looted many years ago by the director, the defalcation being at once made good

by a special tax—I have failed to elicit any information regarding bankruptcy or failure of any of these savings institutions in Germany. In speaking of the soundness of municipal savings banks, the director of the Hanover City Savings Bank says: "Failures of city savings banks are now impossible, so that losses up to the present time have been out of the question, either for the depositor or for the guarantor."

LARGE NUMBER OF DEPOSITS—PROFITS APPLIED TO MUNICIPAL USES.

The two municipal savings banks of Hanover carry only savings accounts. The total amount of deposits in these two institutions is 91,257,909 marks ($21,719,382). The total number of accounts in the two banks is very large, being 149,615, making the average for each account about $150. This figure makes a favorable showing of the economic standing of the community when the large number of depositors is considered in relation to the population.

The profits of these institutions, after the creation of a reserve fund which shall amount to 10 per cent of the deposits, go to the city, and are used for charities and corrections and for beautifying the city streets, squares, and parks. Thus a sense of municipal pride and patriotism is appealed to; and with the highest form of guaranty of safety, the payment of a fair and liberal rate of interest, the establishment of numerous branches for receiving deposits, and the adoption of hours suitable to the convenience of working people, the German savings banks set a fine example to other countries. [The regulations of one of the savings banks and the laws governing the same, which, Consul Thompson says, may be taken as applicable to all savings banks throughout Germany, are on file in the Bureau of Manufactures.]

OPERATIONS OF THE REICHSBANK.

ITS LEGAL STATUS AND MODE OF TRANSACTING BUSINESS.

Consul William C. Teichmann, of Eibenstock, furnishes the following information, compiled from a German publication, and also facts which he secured concerning the development of the leading financial institution of Germany:

The Reichsbank is not a Government institution; on the contrary, it is a stock company, whose shares can be traded on the stock exchange, like those of any other corporation, but it holds an exceptional and privileged position, in so far as it is exempt from German commercial law, being subject solely to the banking law of March 14, 1875, by which it was created. Control of the bank is confined by law to the supervision of a central committee as an advisory and consultant body to a board of directors and its president. The central committee represents the stockholders, and the directors and its president are appointed by the Government. The bank is free from the influence of any private interests, even that of the stockholders, save as their committee is consulted by the board of directors. The imperial chancellor has the right to supreme control, but practically the responsibility for its management rests with the board of directors, and most of all with its president.

The president receives an annual salary of 40,000 marks ($9,520), with the privilege of residing in the bank building, rent free. The

vice-president receives a salary of 18,000 marks ($4,284) per annum, and each of the other 7 members of the directorate from 9,000 to 15,000 marks ($2,142 to $3,570) per annum, with an allowance of $350 each for rent. As the income of managers of private banks, because of extra percentage remuneration, largely exceeds the Reichsbank salaries, the directors repeatedly resign their positions to take offices in private banks.

CAPITAL—NOTE ISSUE—RESERVE FUND—DIVIDENDS.

The capital of the Reichsbank is $42,840,000, and, notwithstanding that no interest on deposits is paid, its deposits at the close of 1907 amounted to 658,000,000 marks ($156,604,000). Its business has increased to such proportions that 480 branches have been established in that number of communities throughout the Empire.

The Reichsbank has the right to issue bank notes according to its needs, but is compelled to hold as a reserve in its treasury, as security for its circulating notes, at all times an amount of German money equal to one-third of the notes issued. This German money means gold, silver, nickel, and copper coin, the thalers issued by the former independent German States, gold in bars, or foreign coin, the remainder to consist of discounted promissory notes, with maturity limited to three months and guaranteed by responsible solvent creditors.

The reserve fund of the bank includes as security for its notes legal tender. In doing so the legislators took into consideration the noncirculating and noninterest bearing gold held in reserve by the Government in the Julius Tower, at Spandau, near Berlin, amounting to 120,000,000 marks ($28,560,000). The volume of legal tender uncovered by metal which has been issued by the Government as "Reichskassenscheine" amounts to the value of the gold reserve at Spandau, which is supposed to represent the metal reserve for this legal tender, although there is no legal stipulation to this effect, hence its classification in the assets of the Reichsbank. The Reichsbank is required to cash immediately upon presentation at the Central Bank at Berlin all its notes in German money recognized as current and all notes presented at its branch institutions so far as the cash supplies and money needs of the branches permit.

The issue of bank notes above the fixed legal limits involves a tax of 5 per cent on all notes not covered by metal, and necessitates a raise in discount whenever such an emergency arises. The total amount thus paid by the bank to the Government as note taxes since 1898 up to January 1, 1907, was 17,000,000 marks ($4,046,000). The bank's metal reserve and legal tender on January 1, 1908, covered 41½ per cent of the bank notes issued, the legal minimum of the reserve being 33⅓ per cent.

The annual dividend of the bank is 3½ per cent, the remainder of the profits being divided between the Imperial treasury and the stockholders, the first receiving three-fourths and the latter one-fourth thereof. Including the regular dividend of 3½ per cent, each share yielded a total profit of 8.22 per cent in 1906. [Consul Teichmann's report, of which the foregoing is a summary, and the German publications on which his report is chiefly based, may be consulted in the Bureau of Manufactures.]

CHINA.

IMPORTS PAID FOR IN ADVANCE—NEW CURRENCY—BANK EXTENSION.

Consul-General James W. Ragsdale, of Tientsin, supplies the following information concerning Chinese banking and monetary changes:

The exchange banks of Tientsin have notified the import merchants that from June 1, 1908, the present procedure in regard to the delivery of imports will cease, and that the proceeds of all goods delivered before the maturity of the relative bills will have to be paid to the banks on the delivery of the goods. Heretofore merchants of good standing have been permitted to withdraw the goods and deliver to purchasers prior to the time of maturity. This new rule may interfere with trade for a short time, but will, in the end, be a great protection to the merchants, who have frequently suffered severe losses on account of the failure of native merchants.

The director of the Tientsin mint has been instructed to consult with the viceroy about the coinage of bona fide one cash coins which will not have any hole in the center and will be current at ten to the cent. The Empress-Dowager has instructed the officials to call in all the old pierced cash and issue the new coins in their place, and the new coins are to be accepted everywhere at face value.

In view of the good business done by the National Bank of China at Peking and the various other treaty ports and big cities, the Chinese Government has now issued the following new regulations about the extension of its trade:

(1) The capital of this bank will be increased from 5,000,000 to 10,000,000 taels (tael about 70 cents), which sum will be divided into 100,000 shares of 100 taels each; (2) the board of finance will see that no foreign subjects are permitted to become shareholders of this bank; (3) the shares are only transferable among the Chinese people, and they will be canceled and made null and void if the holders sell them to the subjects of any foreign countries; (4) the head office will be established at Peking with branches and agencies at the various treaty ports and big and important business centers throughout the Chinese Empire; (5) the bank is the National Bank of China, but it will transact all descriptions of banking business in the same way as foreign banks in this country; (6) the power of issuing notes will only be invested in this bank; (7) the bank may perform all financial affairs for the Imperial Government of China; (8) in case of monetary crises in any province the directors of the bank are at liberty to memorialize the board of finance for assistance; (9) the bank is placed under the control of the board of finance; (10) the term of franchise granted to this bank by the Chinese Government is thirty years; the term may be extended by permission of the board.

The new issues for shares by the bank have been largely oversubscribed, applications being made as soon as it was known that there was to be an additional capital. This is a notable change coming over public thought and enterprise. The bank has been well managed and is paying.

CHINESE BANK AT DALNY.

GOVERNMENT INSTITUTION ESTABLISHED—FINANCIAL FACILITIES.

Consul Roger S. Greene advises, under date of March 7, that the bank of the Chinese Government, known as the Hu Pu Bank, is about to open a branch at Dalny. He says:

It is expected that it will begin on the 9th instant to receive payment of customs duties, which function it will share with the local branch of the Yokohama Specie Bank, but within a few months it

plans to begin also a regular banking business. Additional banking facilities are much appreciated here at present, especially among the smaller merchants and storekeepers, who are obliged to borrow from private parties at very high rates of interest, in order to meet the drafts against merchandise which they have ordered. Many of the larger merchants also feel that it would be desirable to have more than one bank to which they could go for assistance. When the Dalny custom-house was established last July, a branch of the Seiryu Ginko, a small Japanese bank at Newchwang, was opened here to act as receiver of customs duties, but it has only a small capital. The Hongkong and Shanghai Banking Corporation has an agent here, but does not maintain a regular banking office.

BRITISH INDIA.

NEW RULES GOVERNING THE WITHDRAWAL OF POSTAL-BANK DEPOSITS.

Consul-General William H. Michael, of Calcutta, reports that the following rules governing depositors in the post-office savings banks of India went into effect on April 1, 1908:

(1) The agent of a female depositor withdrawing money from her account will be required to certify on the application for withdrawal that the depositor is alive and sane.

(2) Every suboffice which does savings-bank work, instead of only certain selected suboffices, will repay deposits without previous reference to the head office, provided that funds are available in the suboffice. In the case, however, of applications for withdrawal from minors' accounts, security deposit accounts, and conjoint accounts payment will, as at present, not be made until a warrant of payment is received from the head office.

(3) The limit of the amount of withdrawals without notice from the deposits at call at the credit of a public or a conjoint account has been altered from 2,000 rupees ($648.87) within 12 consecutive months to 1,000 rupees ($324.43) within a calendar month.

(4) Deposits in security deposit accounts will be allowed at call and not subject to six months' notice of withdrawal.

MEXICO.

PROPOSED CHANGES IN THE EXISTING BANKING LAWS.

Consul W. D. Shaughnessy forwards from Aguascalientes a Mexican newspaper review of the important amendments proposed by a committee of bankers of Mexico to the existing banking law. They include the raising of the required minimum capital of any banking establishment to $1,000,000 (Mexican dollar=49.8 cents American currency); banks to be preferred to any other creditors for the payment of credits guaranteed by securities given as collateral; banks of encouragement to be compelled to hold cash or silver or gold bars equal to 20 per cent of the total deposits, first-class securities to 20 per cent of the same amount, and securities liable to be discounted equal to 60 per cent of the deposits—this guarantee not to include the reserve fund intended to guarantee the bonds in circulation.

AUSTRALIA.

INCREASED DEPOSITS IN GOVERNMENT SAVINGS BANKS.

Consul-General John P. Bray, of Melbourne, reports that during the past five years the deposits in the government savings banks in Australia have increased largely. In the year 1902–3 the total de-

positors' balance held was $175,024,855, which by 1906–7 had grown to $204,871,324, making $162.75 the average amount to the credit of each depositor, and representing $49.55 per head of the total population of Australia. The annual amount paid in interest to depositors in these banks in 1906–7 was $5,508,104, against $4,265,346 in 1902–3.

JAPAN.

FAILURES OF PRIVATE BANKS INCREASE POSTAL DEPOSITS.

Consul-General Henry B. Miller, of Yokohama, in reporting that 39 Japanese banks with a total capital of $38,000,000 suspended payment last year, says that the loss of confidence in the smaller banks has resulted in an increase of money deposited at the post-office savings bank. The total deposits in the latter at the end of March amounted to $46,460,000, showing an increase of $722,000 as compared with the amount deposited at the end of last year.

FISCAL AFFAIRS.

GERMANY.

REVENUES FROM THE PRUSSIAN INCOME TAX—NUMBER OF TAXPAYERS.

The following information concerning the income tax of Prussia in 1907 is furnished by Consul-General Richard Guenther, of Frankfort:

The revenues from the Prussian income tax in 1907 were, in round numbers, 250,000,000 marks ($59,500,000), against 217,000,000 marks ($51,646,000) in 1906, to which 5,382,574 taxpayers contributed, against 4,700,000 in 1906. The number of persons paying an income tax was 14 per cent of the total population, against 12½ per cent in 1906, of whom 3,469,758 reside in the cities and 1,912,816 in the country. Of the taxpayers, 557,509 had an income each of more than 3,000 marks ($714), and of these 430,981 live in cities and only 126,528 in the country.

The number of income-tax payers, according to the various income groups, distributed in cities and country was as follows:

Groups.	In cities.	In country.	Total.	Per cent of the total number.
	Number.	*Number.*	*Number.*	
900 to 3,000 marks—$214 to $714	3,038,777	1,786,288	4,825,065	89.60
3,000 to 6,500 marks—$714 to $1,547	289,186	97,208	386,394	7.18
6,500 to 9,500 marks—$1,547 to $2,261	59,531	13,284	72,815	1.35
9,500 to 30,000 marks—$2,261 to $7,259	65,158	12,472	77,630	1.43
30,000 to 100,000 marks—$7,259 to $23,800	14,189	2,920	17,109	.32
100,000 and upward marks—$23,800 and upward	2,917	644	3,561	.07
Total	3,469,758	1,912,816	5,382,574	100

AVERAGE INCOMES OF THE TAXABLES.

Almost 21,000,000 of the inhabitants were exempt from income tax, while the number of income-tax payers, inclusive of the members of their families, reached 17,000,000. In the cities three-fifths of the population had to pay an income tax; in the country three-tenths.

The total amount on which income tax was paid in 1907 was nearly 12,000,000,000 marks ($2,856,000,000), against 10,125,000,000 marks ($2,469,750,000) in 1906. In cities this taxable income was 8,500,000,-

000 marks ($2,023,000,000), and in the country 3,500,000,000 marks ($833,000,000). The average income of the taxpayers in the cities was 2,400 marks ($571.20), and in the country 1,800 marks ($428.40).

The district with the highest average income was Wiesbaden with 2,900 marks ($690.20). Frankfort is included in this district, and the high average is undoubtedly due thereto. The district of Berlin has an average of 2,300 marks ($547.40).

If only the Prussian cities, not the districts, are considered, then the suburbs of Berlin, "Deutsch-Wilmersdorf," where the wealthy Berliners live, leads the list with an average income of 4,300 marks ($1,024), followed by Charlottenburg with 4,200 marks ($1,000). Frankfort 3,700 marks ($880.60), and Wiesbaden and Bonn 3,600 marks ($856.80).

RUSSIA.

POPULATION, ASSETS, REVENUES, AND EXPENDITURES OF MOSCOW.

Consul-General Frank D. Hill, of St. Petersburg, furnishes the following statistics for the city of Moscow, prepared by the president of its municipal council, coincident with the offering, in London and Amsterdam, of a loan, to be devoted to permanent provisions for the extension of its industrial enterprises:

The population of Moscow has increased from about 1,040,000 in 1897 to about 1,400,000 in 1908. The assets of the municipality are taken at the original cost price without regard to their present greatly enhanced value, and are increasing yearly through the continual purchases of property and extensions of industrial enterprises. On January 1, 1907, their book value stood at $68,588,000, divided as follows: Freehold land, buildings, etc., $29,347,575; waterworks, $12,893,540; tramways, $3,865,590; sanitary works, $5,904,475; gas works, slaughterhouses, etc., $7,201,245; Government and other liquid securities, $9,375,575. The book value in 1906 was $64,441,950, and in 1901, $34,902,580. The indebtedness of the municipality on January 1, 1907, was $29,168,055, outstanding bond issues, $20,688,065, and temporary advances $8,479,990. The revenue of the municipality in 1906 was $12,358,970. For the ten years ending with 1903 a surplus was shown each year in the municipal budget, but in 1904–1907, owing to war and subsequent disturbances, deficits occurred amounting in all to $1,789,625, inclusive of a voluntary contribution of $515,000 to the war fund, but these deficits were more than covered by the surplus and reserves of former years.

The estimated expenditures and revenue of the municipality for 1908 are as follows: Expenditures—administration, $1,215,400; maintenance and repair of streets, $900,735; schools, $1,280,290; hospitals, $2,193,900; workhouses, $745,205; barracks, police, etc., $1,328,700; expenses for industrial enterprises, $4,768,900; service of debt, etc., $1,807,135; total, $14,240,265. Revenue—house taxes, $3,038,500; income on leases of town properties, $914,640; interest on liquid capital, $425,390; taxes on hospitals, cabmen, etc., $2,084,205; miscellaneous revenue, $786,920; income from industrial enterprises, $6,990,610; total, $14,240,265.

The loan will be devoted in the first instance to the repayment of the temporary advances made for the purpose of developing the industrial enterprises of the town, and subsequently to the further extension of such enterprises.

ROUMANIA.

INCREASED REVENUES FROM THE STATE MONOPOLIES.

Consul-General Norman Hutchinson, in reporting from Bucharest that the taxes on the state monopolies of Roumania during the year 1907–8 amounted to a total of $12,755,353, more or less, furnishes the following details:

This is $869,325 more than the amount collected last year (reported) and $2,205,353 more than anticipated in the budget. The list is made up as follows for this year, the increase over last year being in parentheses: On tobacco, $9,314,394 ($659,695); cigarette paper, $1,036,939 ($96,669); matches, $716,310 ($19,907); playing cards, $158,040 ($22,078); explosives, $109,196 ($8,379); exportation of salt, $259,972 ($17,193); stamps, $2,253,293 ($165,356).

ESTIMATED SURPLUS OF REVENUE OVER EXPENDITURES.

The following statistics show the estimated revenue and expenditures of the Roumanian Government for the year 1908–9:

Revenue.	Amount.	Expenditures.	Amount.
Direct taxes	$8,152,320	Ministers of—	
Indirect taxes	12,228,480	War	$10,455,711
Stamps and registration	4,130,200	Finance	34,131,126
State monopolies	11,261,550	Religion	7,470,306
Public services	20,042,185	Interior	7,628,630
State lands	5,515,747	Public works	14,266,234
Subventions:	3,703,477	Justice	1,856,181
From the ministers of—		Agriculture, etc	1,469,047
Finance	11,483,172	Commerce and industry	206,749
Interior	844,365	Foreign affairs	542,616
Justice	311,976	Council of ministers	11,265
Religion	1,372,620	Extraordinary expenses	965,000
Other ministers	279,038	Excess of revenue	322,265
Total	79,325,130	Total	79,325,130

COLOMBIA.

REMOVAL OF MONOPOLY ON HIDES AND PROBABLY THAT ON RUM.

Consul Isaac A. Manning, writing from Cartagena under date of March 27, gives the following information:

The Government of Colombia has abolished the monopoly of hides, and returned to the former practice of charging a small fee for the right to kill beeves for general sale. This monopoly was extended to the Banco Central of Bogota, some two years ago, with a view to maintaining exchange at a fixed rate through the sale of drafts on foreign countries by that concern. Recently commercial exchange on the United States has been steadily rising, until it reached 13,500 per cent or $135 of Colombian paper pesos for $1 American gold.

The publication of the decree has already had the effect of lowering the commercial exchange rate 1,000 points.

The former exporters of hides from Cartagena [names on file at Bureau of Manufactures] will no doubt again be in the local market as purchasers and exporters of hides. This move on the part of the Government seems to have given general satisfaction.

It is freely reported that the Government is also considering the withdrawal of the monopoly for the manufacture of rum, and that an offer of $60,000 gold has been made to the owners of the monopoly in consideration of releasing of their contr t. While no agreement

has as yet been reached, the owners of the monopoly demanding $100,000, it is generally believed that this monopoly will also soon be removed. This will mean the free manufacture of rum, and therefore the improvement of the cane fields of this and other departments. The abolition of these monopolies, it is said generally, will have a tendency to better the economic condition of Colombia.

REDUCTION OF GOVERNMENT EXPENSES.

The Colombian Government, by its ministers, has decided to reduce its expenses provided for by the budget of the present year, to the amounts of $2,282,278, the principal reductions to take place in the Treasury Department and the Department of the Government. In addition, the capital district of Bogota will reduce its budget to the amount of $30,000. These reductions will be placed in a reserve fund for reenforcing the outstanding paper money, and in preparing for its conversion into metallic money.

REDUCTION OF TAXES.

GRADUAL REDUCTION ON TOBACCO—FLUVIAL TAX ABOLISHED.

Mr. T. C. Dawson, American minister to Colombia, sends from Bogotá the following report on the reduction of the tobacco tax, and the abolition of the fluvial tax in that Republic:

A decree of the President reduces the tax on tobacco for domestic consumption from the present rate of 15 cents per kilo (2.2 pounds) to 14 cents during May and June, to 13 during July and August, to 12 during September and October, to 11 during November and December, and to 10 cents after January 1, 1909.

Another decree abolishes from and after May 1 the fluvial tax on articles of national production in the process of export and on importations in lots of a ton or more of machinery and materials of iron, steel, copper, zinc, or lead intended for use in national industries. This fluvial tax was imposed for the expressed purpose of using its proceeds for improving the river channels and subsidizing regular steamboat lines.

BRAZIL.

ENLARGEMENT OF THE WATER WORKS AT RIO DE JANEIRO.

Consul-General George E. Anderson, in reporting that the Brazilian Government has made its plans for large additions to the supply of water for Rio de Janeiro, writes as follows:

Additions are now being made which involve an expenditure of 30,000,000 milreis, or substantially $9,000,000, and which will eventually bring an additional supply of 204,000,000 liters (liter=1.05 quarts) of water per day. The present supply is 146,000,000 liters from 11 stations. These expenditures are made by the Federal Government of Brazil as a national matter. Rio de Janeiro is, like Washington, the capital, and located in a district belonging to the National Government. Water taxes are paid in Rio de Janeiro as in other cities and are not high, comparatively speaking. But the improvements are made by the Federal Government without regard to the income of the system. It is treated as a governmental matter, independent of local income, and the necessity of paying interest on local debts.

SWINDLING SCHEMES.

UNCLAIMED FOREIGN ESTATES—ADMONITION FROM SPAIN.

American diplomatic and consular officers in Europe have at various times directed attention to efforts by designing parties to obtain money from citizens of the United States through false representations, consisting of statements to the effect that large unclaimed estates of decedents awaited the claims of the legitimate heirs in the United States. Schemes of this dishonest character have been exposed in reports from Great Britain, Germany, the Netherlands, Belgium, and Spain, but in spite of the publicity given these organized swindles, they resume operations after intervals of a few years. The minister from Spain at Washington has informed the Department of State that his Government has taken steps to suppress the swindle in that country. In his note to the Secretary of State the minister writes:

The energetic campaign undertaken by His Majesty's Government against the international association of swindlers by the so-called "burial" process has resulted in the discovery at Madrid of a private, clandestine office where these crimes are hatched. The person in charge of this office has been arrested, and books have been taken from him which contain the addresses of persons residing in this country; likewise, a large number of letters being prepared to be sent to the unwary individuals selected as victims or accomplices in this nefarious business.

While bringing this to your excellency's knowledge, I wish to ask you at the same time to employ the various means at your disposal in order to give the greatest possible publicity to the matter, either through the press or by any other means which you may deem appropriate in order to prevent American citizens to whom these parties may write from being swindled, provided there are still branches of this secret society existing.

Twenty-five years ago there was a dearth of capital to develop the agricultural industries upon which the cities of St. Paul and Minneapolis have grown to their present importance in the grain trade of the world. The capital necessary for their development, it is said, came largely from Canadian banks, the management of which, appreciating the situation as one which would yield a profitable return, stepped in and supplied the financial assistance which enabled the "Twin Cities" to win their grain supremacy. To-day these cities are in a position to come forward with money for investment in the various enterprises in western Canada, where the present conditions as to the inadequacy of available money to the needs of the country are analagous to those which obtained in and about St. Paul and Minneapolis a quarter of a century ago.

At that time, as is always the case in a grain-growing section, the time of acute demand was at that period of the year when the crop was to be moved. It requires a great deal of money to finance a wheat crop, and the banks of Duluth, St. Paul, and Minneapolis were not able to meet the demands made upon them for ready cash. The situation was relieved by Canadian banks loaning money on warehouse receipts—that is, upon grain in store and yet to be sold to final purchasers. Now these cities are not only able to take care of their own financial affairs, but they are also lending very substantial aid to the city of Winnipeg, which is in much the same situation as the American cities were then.

OPPORTUNITIES FOR INVESTMENT.

Located at the gateway of a vast and immensely productive country, Winnipeg offers opportunities for investment which the banks of the section lying directly south of the Manitoba trade center fully appreciate. Individual capitalists are not slow in taking advantage of opportunities that promise so much in immediate returns. That these opportunities will enormously increase can not be doubted. New settlers from all over the world, many of them from the United States, pour in a steady stream into western Canada, and the wheat crop, which has been hovering around the 100,000,000-bushel mark, will soon reach 150,000,000 and in a few years double itself. To this yield of wheat must be added other millions of bushels of coarser grains, all of which make up no inconsiderable factor in the sum total of those things which call for the presence of money in large amounts for the purpose of financing their transportation and sale.

Internally Canada is unable to supply the financial needs demanded by the rapid development that is going on in the western part of the country. Eastern Canada is fast becoming a great commercial and industrial section, and so much of local capital is absorbed in the growth that is developing along these lines that there is little to spare for the great and growing needs of western Canada. There is in fact a real shortage of capital for use in furthering manufacturing and commercial enterprises, and this shortage American capital must supply. [A list of American industrial concerns in that part of western Canada, forwarded by the consul, is filed for reference with the Bureau of Manufactures.]

SWINDLING SCHEMES.

UNCLAIMED FOREIGN ESTATES—ADMONITION FROM SPAIN.

American diplomatic and consular officers in Europe have at various times directed attention to efforts by designing parties to obtain money from citizens of the United States through false representations, consisting of statements to the effect that large unclaimed estates of decedents awaited the claims of the legitimate heirs in the United States. Schemes of this dishonest character have been exposed in reports from Great Britain, Germany, the Netherlands, Belgium, and Spain, but in spite of the publicity given these organized swindles, they resume operations after intervals of a few years. The minister from Spain at Washington has informed the Department of State that his Government has taken steps to suppress the swindle in that country. In his note to the Secretary of State the minister writes:

The energetic campaign undertaken by His Majesty's Government against the international association of swindlers by the so-called "burial" process has resulted in the discovery at Madrid of a private, clandestine office where these crimes are hatched. The person in charge of this office has been arrested, and books have been taken from him which contain the addresses of persons residing in this country; likewise, a large number of letters being prepared to be sent to the unwary individuals selected as victims or accomplices in this nefarious business.

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ECONOMICS.

EDUCATIONAL ADVANCEMENT.

GERMANY.

PROVINCE OF ALSACE-LORRAINE OFFERS TECHNICAL COURSES.

Consul William J. Pike, in the following report from Kehl, calls attention to the encouragement given by the German authorities to mechanics seeking to become superior workmen:

There is no nation in the world that gives greater encouragement and opportunity to its people to become skilled artisans than Germany. Municipal, State and the Federal governments all contribute to the establishment and support of technical and industrial schools, and there is scarcely a city or town of any importance where one of these splendid institutions is not found.

Any law or regulation that tends to encourage and lift up laborers and mechanics to a higher degree of proficiency finds ready and hearty indorsement. The department of interior of the imperial ministry of Alsace-Lorraine has arranged the following courses of instruction for those workmen who desire to attain that degree of proficiency which will entitle them to be called masters in their respective trades.

It must be understood that the applicants for these masters' degrees are practical and skilled workmen, with years of experience in their different lines of work, and by means of these tests are ambitious to become recognized as finished artisans. For instance, a tailor who has successfully passed such a test will be known as "Schneidermeister" (master tailor), and, since such distinctions mean a great deal to a workman in Germany, the artisan eagerly strives to attain that proficiency when he is recognized as a master of his trade.

SIX PRACTICAL TECHNICAL COURSES.

Besides the excellent trade schools and the necessity of long apprenticeships, which train the journeymen of Alsace-Lorraine, the ministry at Strassburg has made possible the following courses:

(1) A master course for bookbinders, upon the completion of which the workman is known as a master bookbinder. This course is conducted in Strassburg by an expert instructor from an industrial school of North Germany. Instruction is given in the details of binding books, especially the different color effects, artistically cutting the paper—square cornered or round—the art of putting the leaves together in such a way as to insure greatest symmetry and durability; the tasteful decoration of the cover; the study of the different kinds of binding, such as leather, half-leather, morocco, cloth, paper, etc.; what bindings are best suited to an atlas or album; the study of attractively indicating the title of the book; the best method of dividing a large work into volumes. Besides these practical phases, [illegible]

tures are given and exhibitions are made of the best products in the art of bookbinding.

(2) In the courses for tailors, most of the attention is devoted to the instruction in cutting and fitting, the drawing of the latest patterns, etc., as well as the studying of the quality of goods and color effects.

(3) The master course for painters consists of practical lessons in wood and stone painting, proper shading, and the painting of figures, signs, and other artistic work. Exhibitions are also made in different public places, when the painters' names are indicated, and in this way serve, in a certain sense, to advertise their work—though that is incidental.

(4) A master course for locksmiths, mechanics, plumbers, and tinners is given in the fundamentals of electricity, building, and insurance requirements, as well as the proper wiring of buildings. The putting in of telephones, different methods of lighting—gas or electricity. Practical illustrations are taken from model houses and buildings.

(5) A master course for cabinetmakers in which the latest tools, different kinds of wood and their respective uses, and practical work in polishing, staining of wood, as well as the study of the latest material in the finer lumber for such work.

Further, each participant must be able to sketch a model workshop, figure out the cost of the raw material compared to the finished product; and visits are made to the art museums and large furniture establishments.

(6) Similar courses are given for paper hangers, decorators, potters, carpenters, well diggers, and all workmen where any skill is required.

EDUCATIONAL GYMNASIUMS.

A NINE-YEAR COURSE COVERING AN EXTENSIVE CURRICULUM.

Consul Talbot J. Albert, reporting from Brunswick, presents the following brief review of one of Germany's excellent educational systems:

A "gymnasium" is translated in the dictionary as a grammar school and as a high school. It is more than either. The classical, mathematical, and literary standard of the last years of a gymnasium course is equal to that of the first years of a first-class American college course. The gymnasium has a systematic course of instruction for nine years. The average age of entry into a gymnasium is between 10 and 12 years and the average age of graduation is 20 years. Students who successfully pass through the first six years of the course can be admitted into the army as a "one year soldier," (Einjähriger) thus saving one year of military service.

In the Brunswick gymnasium, which may be taken as a model of this kind of school, the works of the principal Latin and Greek authors are read, and the higher mathematics, the physical sciences, and ancient and modern history are taught. Special attention is given to literature and composition. In the last three years essays are required to be written on difficult and abstruse subjects. The nine classes of a gymnasium are designated as sexta, quinta, quarta, unter-

tertia, obertertia, untersecunda, obersecunda, unterprima, and oberprima.

Hitherto English has been taught to only a limited extent, the course consisting of two hours a week in the last three classes mentioned. Extracts from the works of Washington Irving, selections from Macaulay's History of England, and one play of Shakespeare are read as models of pure English. Much more attention has been devoted to the cultivation of the French language, the study of which begins in the Brunswick gymnasium with quarta, consists of three hours a week and continues to the end of the school period. While an examination is required in French, none is required in English.

MORE ENGLISH INTRODUCED—ATTENDANCE SYSTEM.

In November last, however, the Prussian minister of instruction issued an order in which he stated that on account of the importance which the English language has in reference to literature, commerce, and politics, it is desirable that the scholars of a gymnasium at the close of their education at school should at least be so familiar with it as to understand the reading of English books and what is necessary to further self-education in the use of a foreign language. He thereupon directs that in place of the obligatory instruction in French in the last three classes English shall be taught for three hours weekly, and the two-hour instruction in French be left to the choice of the student. It is possible that this order may be followed in other States of Germany.

The gymnasium in large cities as Brunswick has two annual commencements or periods of admission, Easter and Michaelmas. In winter the hours of instruction are between 8 a. m. and 1 p. m., and in summer between 7 a. m. and 12 m. There are usually two hours of instruction, consisting of one hour of classics or physical science, and one hour of calisthenics in the afternoon. There are four vacations—a fortnight at Christmas, a fortnight at Easter and Michaelmas. The summer vacation is for one month, from the beginning of July to the beginning of August. The only free day is Sunday, instruction being given on Saturday the same as on any week day. For this reason a German scholar has one-fifth more time devoted to his education than the scholars of countries where Saturday is observed as a holiday. The hours of instruction and the thoroughness of method practiced in the gymnasia are generally characteristic of German schools.

CANADA.

ATTENDANCE REGULATIONS VARY IN THE DIFFERENT PROVINCES.

Vice-Consul-General Patrick Gorman sends from Montreal the following summary of the requirements of the different Canadian provinces as to school attendance:

Quebec.—The payment of the fees of school children is compulsory, but there is no provision under the law compelling the attendance of children at school.

Ontario.—Under the terms of a special act respecting truancy and compulsory school attendance, every child between the age of 8 and

14 years must attend school for the full term each year, unless he has passed the entrance examination for high schools, or under certain other specified conditions. The employment of school children during school hours is prohibited under a penalty of $20, unless the child is required in husbandry, or in urgent or necessary household duties, or for the necessary maintenance of himself or some person dependent on him. The act also provides for the appointment of truancy officers and defines their duties. The onus of proof as to the age of the child lies with the defendant in any action.

Nova Scotia.—Children between the ages of 6 and 16 years, if physically and mentally capable, must attend school for at least one hundred and twenty days in the school year, but a child over 12 years of age who passes a satisfactory examination in grade seven of common school work, and any other child over 13 years of age who has attended school sixty days during fourteen consecutive weeks in the preceding year, if necessity requires him to work, may be exempted from the foregoing provision on permission of the local school board.

New Brunswick.—A comprehensive act providing for the compulsory attendance of children between the ages of 7 and 12 years at school was passed in the year 1903. Provision was made in a special way under the act with reference to the employment of children below the school age.

Manitoba.—Under the Manitoba public school act it is declared that every person in rural municipalities between the ages of 5 and 16 years, and in any cities, towns, and villages between the ages of 6 and 16 years, shall have the right to attend school. Attendance, however, is not compulsory.

Saskatchewan and Alberta.—The attendance at school of children between the ages of 7 and 12 years. inclusive, is compulsory for a period of at least sixteen weeks each year, eight weeks of which time must be consecutive. Provision is made for the investigation of cases of nonattendance, and the appointment and proceedings of truancy officers.

British Columbia.—Every child from the age of 7 to 14, inclusive, must attend some school or be otherwise educated for six months in every year. Exemption is granted in case the child has reached a standard of education of the same or greater than that to be obtained in the public schools of British Columbia.

CHINA.

ESTABLISHMENT OF A CENTRAL NORMAL SCHOOL AT PEKING.

Consul-General James W. Ragsdale, of Tientsin, advises that the Chinese board of education is going to establish a Shih-fan Hsueh-tang, or civil normal college, in Peking for training teachers for service in the various civil schools and colleges throughout the Empire. In addition to Chinese classics, English, French, German, Russian, and Japanese will be taught in the proposed college, under the instruction of experienced teachers. The college will be established in the Chinese city in the course of the present year, and the annual expenditure is estimated to be about 100,000 taels (about $70,000).

MEDICAL SCIENCE.

BRAZIL.

GOVERNMENT CAMPAIGN AGAINST TUBERCULOSIS IN CITIES.

Consul-General George E. Anderson reports that the Federal Government of Brazil is preparing a campaign against tuberculosis in the cities of the Republic, especially in Rio de Janeiro, equal to that against yellow fever, which has placed that city among the most healthful cities of the world.

The present number of deaths due to consumption in Rio de Janeiro and in Brazil generally explains the extraordinary measures to be taken by the Government against tuberculosis according to the announced plans. The tables of mortality of the Federal district show that out of a total of 14,660 deaths in 1905, 2,663 were due to pulmonary tuberculosis, as compared with 287 from the dreaded yellow fever. In 1906, out of a total of 13,956 deaths 2,649 were from tuberculosis, while in 1907 out of a total of 13,014 deaths 2,587 was the proportion. Therefore of all deaths in Rio de Janeiro, during those years one in five was due to consumption, and that, too, in spite of the highly commendable work done by the League Against Tuberculosis hereinafter mentioned, whose efficacy is already shown in the slightly decreased record for the past two years. What systematic work in sanitation can do, however, is shown in the totals of deaths given in the case of yellow fever. In the latter disease the deaths in 1905 were 287, in 1906, 42, and in 1907, 39. The disease is stamped out, so far as the general public in Rio de Janeiro is concerned, the few cases noted arising in out-of-the-way places and being so well guarded and pursued that all danger of epidemic under present regulations is done away with.

THE NEW CAMPAIGN AGAINST THE DISEASE.

Naturally, with such success in disposing of yellow fever back of them, the sanitary authorities of Brazil feel that something can be done against tuberculosis. There are 26 cities in the country which are included in the plans outlined in this report, but for the time being, and with the initial expense, most attention will be paid to Rio de Janeiro as the capital and chief city of the nation. This new campaign involves the expenditure of $1,250,000 as a beginning of the movement. The plan includes legislation which may have a marked influence upon similar movements in the world generally. The Brazilian project includes as its material features:

The compulsory reporting of every case of tuberculosis to the sanitary authorities; the complete assumption of charge of all cases of tuberculosis by public authorities, in which infectious cases are separated from the public and patients supported by the public; the establishment of hospitals, with complete isolation, for tuberculosis-infected invalids, and of hotels and boarding houses, agricultural colonies, and sanitaria for those not invalid; the absolute refusal of admission into Brazil of any person or animal having tuberculosis; the inspection of all foods and materials likely to carry bacilli of the disease, with power to destroy anything infected;

and the betterment of food, housing, and other conditions of life for the large mass of the population in which tuberculosis is raging, for the prevention of the disease by fortifying the people against it by improving their general health.

No modern means for combating the disease is to be neglected and there is to be given full effect in Rio de Janeiro to practically all methods of fighting the disease which sanitary officials the world over have been working for at various times and places.

ASIATIC TURKEY.

MANY MINERAL AND HOT SPRINGS IN THE VILAYET OF SMYRNA.

Consul Ernest L. Harris furnishes the following information concerning the mineral waters and hot springs of the vilayet of Smyrna:

Among the bathing places in vogue are the springs at Tchesme, which are visited more than any others. From all parts of the Turkish Empire invalids come in large numbers to take the waters. The waters are sulphurous and saline, with a temperature of 135° F., and are highly recommended for rheumatism and skin diseases.

Within 7 miles of Smyrna are the hot springs of Lidja, which were known to the ancients under the name of the Baths of Agamemnon. They are useful against rheumatism. Between the springs of Tchesme and Lidja is a spring of saline waters, very similar to those of Carlsbad, much used as a curative for liver complaints.

The district of Pergamus boasts of several hot springs, the best known of which is at the village of Kinik. There are also hot springs in the district of Kouch-Adassi, which are popular locally. Three miles southeast of the ruins of Sardes, the hot springs still exist which were so renowned in ancient times. They are now little frequented, owing to their isolated location on the mountains.

At Alacheir, the ancient Philadelphia, a native company is bottling up the water of the Sarikiz spring, which is similar to Apollinaris, and which is now being exported in ever-increasing quantities. So much is this water now used in Smyrna and other cities in Turkey, that European bottled water has been practically shut out from the market.

Several hot springs are located near the city of Aidin, some of which have the reputation of healing wounds. All the waters of the Lycus valley are mineral, and most of them are thermal. Those of Hierapolis are still visited by the native population in great numbers. This Hierapolis spring goes up to 190° F. All the mineral waters of this valley have incrustating properties.

According to a recent circular issued by the competent authorities, the exploitation of mineral springs in this vilayet, of whatever kind, will be granted, after analyses have been made, to the parties offering the highest royalty to the State.

BELGIUM.

NEW SERUM CURE FOR PNEUMONIA DEVISED BY A EUROPEAN SCIENTIST.

Consul-General Henry W. Diederich, writing from Antwerp, gives this account of another step for the alleviation of pneumonia:

The increasing therapeutic use of serum of animals immunized by bacteria and bacterial products is one of the mos' ble charac-

teristics of modern medicine. In the treatment of pneumonia, or inflammation of the lung tissue, the results obtained with serum treatment, though they have fallen short of the brilliant results obtained by the prompt use of diphtheria antitoxic serum, have been very encouraging.

There are various preparations in use in this country, in Germany and Switzerland, but they must be applied in rather large quantities and in oft-repeated doses. In cases of moderate severity not less than 50 grains and, in severe cases, 100 grains and even more must be given, thus injecting at least four to five times the initial dose. To overcome this difficulty Dr. Leon Bertrand, a noted bacteriologist of Belgium, has set himself to the task of preparing a serum that may be applied less frequently, in smaller doses, and with more beneficial results.

In a paper recently read before the Medical Society of Antwerp this scientist claims to have been successful, and he is now preparing a work making known the details of this new serum cure of pneumonia, which is a bactericidal, not an antitoxic agent. It is to be hoped that future results will bear out the good hopes which he now entertains of it.

CONDITIONS IN INDIA.

IRRIGATION, EVEN BY CRUDE METHODS, THE COUNTRY'S SALVATION.

Consul-General William H. Michael, of Calcutta, furnishes the following information, as the result of a trip through the United Provinces of India:

The results of irrigation obtained by hauling water from wells by means of a pulley and bullock power, and by the Persian wheel are surprising. Sufficient water is obtained in this way to irrigate fields of wheat, many kinds of grain, mustard, root crops, and garden truck. The amount of land thus rescued from the drought fully illustrates why it is that the droughts which burn and crack the soil of the Indian plains are not more destructive of human and animal life. But for irrigation—that furnished by the canals, and, especially, by wells—the horrors of the situation in India this year could not be adequately told. As it is the people are keeping together, are able to live by economy, and to feed their stock. I saw no lean stock, and the people looked fairly well fed. The Government is supplementing the efforts of the people to live, by direct relief, by test and public works, that is, creating work on railroads, telegraph lines, canal repairs, and many other ways.

CYCLES OF GOOD AND BAD YEARS.

It may be truthfully said that the millions in India were never in as good condition to fight off famine as now. There will be suffering and starvation in remote parts, but on the whole the British-India Government and the people are to be congratulated on the results of vast endeavor to ward off famine. Notwithstanding this the official report on the administration of the United Provinces is none too assuring. It should be borne in mind that all of India on the plains does not suffer to the same extent in the same years. Tracts of country are visited by what may be described as a cycle of lean years. The

Central Provinces have apparently just emerged from such a cycle, and the United Provinces are just entering into one.

In these provinces the magnificent crops of 1904 were blighted by the frost in January, 1905, and the people awaited the monsoon with unusual anxiety. Unfortunately, the rainfall was scanty and badly distributed; and in tracts which had suffered severely from the frost, not only was the autumn harvest, where unirrigated, a complete failure, but winter sowings were restricted by lack of moisture in the soil. Nor was the cold weather more propitious, for there was no rain till February, when it came too late to avert a famine. The monsoon of 1907 was, as is well known, a failure, and the result is that nearly the entire area of the United Provinces is now in the throes of an acute famine. The two first measures now adopted in the event of a failure of a harvest are the remission or suspension of land revenue, with a consequent remission or suspension of rents, and the distribution of liberal advances to agriculturists. This policy was put into operation during the 1905–6 scarcity, and the relief granted amounted to $1,200,000 in remission and $886,665 in advances.

HOTEL FOR THE POOR.

PATRONIZED BY ALL CLASSES AND NATIONALITIES.

The following information concerning the progress of the Italian society which has control of the hotel for the poor in Milan is forwarded by Consul James E. Dunning, having been prepared by Clerk Siersdorfer:

The hotel for the poor in Milan was opened seven years ago, and a dormitory therefor was started four years ago. The work of the society is officially said to be steadily progressing and receiving much encouragement. The society's capital is $82,955, and provisions donated amount to $13,124. The net profit for 1907 was $5,216, although expenses for improvements are stated to have been relatively high. The daily earnings of the hotel amounted to $61. The average daily earnings of the restaurant was $40.

The callings of the 453 daily inmates of the hotel were as follows: Lawyers, mathematicians, etc., 18; students, 8; clergyman, 1; soldier, 1; painters, sculptors, engravers, and photographers, 19; musicians, singers, and actors, 13; traveling salesmen, 37; office and store clerks, 89; printers and bookbinders, 11; street venders, 10; mechanics and electricians, 21; cabinetmakers and carpenters, 16; tailors and shoemakers, 7; bricklayers and stonecutters, 15; laborers, 73; peasants, 17; cooks and waiters, 20; business men, 29; foreigners, 48. Among the foreigners were Americans, English, Germans, Russians, Roumanians, Poles, French, Japanese, and Africans, who had heard of the Milan hotel called "Albergo Popolare" prior to their arrival in the city.

The average daily number of inmates in the dormitory was 316 men, 36 women, and 6 children, making a total of 358 persons. The average daily earnings of the dormitory amount to $21.19, which is a decrease of about 14 cents per day from 1906. Beds cost from 4 to 6 cents per night.

Hotels for the poor, similar to that in Milan, are being built in many of the principal cities of Italy.

TARIFFS.

CHANGES IN REGULATIONS.

ARGENTINA.

MINING MACHINERY TO BE ADMITTED FREE OF DUTY.

Consul-General Alban G. Snyder, of Buenos Aires, reports that a revised law which became effective on October 9, 1907, exempts from customs duties, for ten years, all machinery and materials necessary for the installation and exploitation of mining and metallurgical establishments which exist at present or which may hereafter be established in the Argentine Republic. Drilling concerns using waters of the subsoil are also included in this law. Expenses incurred in verifying materials introduced shall be paid by the party soliciting exemption from duties. In each case, application in writing should be made to the corresponding custom-house.

AUSTRALIA.

ADMISSION OF PATENT MEDICINES.

Under date of April 1, 1908, Consul Henry D. Baker reports that a large shipment of patent medicines made by a certain firm of American manufacturers has been detained at the custom-house at Hobart, Tasmania, because of conflict with the provisions of the commerce and trade-mark laws of the Australian Commonwealth. Referring to the incident, the consul writes as follows:

It might be well for the patent-medicine proprietors of the United States to be warned from this instance that they will incur risk of large losses if they export goods to Australia containing labels or which are wrapped with circulars making large claims as to their curative properties. As American patent medicines have an important market in the Australian States, great care must be exercised by exporters in adhering strictly to the local customs regulations. In the particular instance to which I refer the collector of customs has written to the importer a letter stating that the goods "are detained on account of extravagant claims made as to their curative properties. The statements on the cartons, labels, and so forth, are extremely misleading. Analysis showed that though no drugs enumerated in regulation 6 (2) (*b*) were discovered,[a] the preparation

[a] Regulation 6 (2) (*b*) referred to in the consul's report reads as follows: "In the case of medicines prepared ready for use, and containing any of the following drugs (or the salts or derivatives thereof), viz., opium, morphine, cocaine, heroin, stramonium, nux vomica, cannabis indica, bromides, sulphonal, trional, veronal, paraldehyde, or any synthetic hypnotic substance, phenazonum, phenacetinum, or acetanilidum, or any allied synthetic substance, chloral hydrate, belladonna, cotton root, ergot, or any abortifacient, the trade description shall set out the names of all such drugs so contained."

contained 37 per cent proof spirit and that it contained no sulphur, as alleged."

The importer was further informed that "provided all objectionable matter was removed and that a correct trade description was applied, delivery would be given, and that the label and wrapper, containing fallacious advertisement, would have to be removed."

I examined one of the wrappers in the shipment and counted 40 different maladies that the medicine was alleged to cure. Had the medicine been a cure for 39 less maladies it would have had a better chance to get through the Hobart custom-house. Of course, once the cases are opened and all this advertising material removed, and the labels taken off or corrected, the medicines evoke suspicion and become practically unsalable.

The Australian regulations are very strict in forbidding import of goods in which the trade descriptions are at all inaccurate or exaggerated, and copies of these regulations should be obtained and perused by American merchants who would like to cultivate business in Australia.

[Copies of the trade-mark law and regulations are on file in the Bureau of Manufactures.]

BRITISH SOUTH AFRICA.

PROPOSED REVISION OF THE CUSTOMS TARIFF.

Consul E. S. Cunningham, of Durban, Natal, writing under date of April 16, sends the following report on the forthcoming tariff revision in the British South African Customs Union:

The Customs Union Convention of the Colonies of British South Africa, of 1906, terminates on June 30, 1908, notice having been given by the Transvaal of her intention to withdraw from the present convention on that date. At present the union is composed of the British colonies of Natal, Cape Colony, Transvaal, Orange River Colony, and Southern Rhodesia. A convention has been arranged by the colonies to meet in May at Pretoria for the purpose of formulating a new joint tariff upon the same lines as the former, with such alterations as may be agreed to; and as a preliminary to this convention the different colonial governments have appointed commissions to hear proof and report upon various questions which will be useful to delegates in securing equitable rights in this convention for their colonies. The report of the Natal commission has now been published, containing a great deal of evidence presented to the commission and the commissioners' report.

INDUSTRIAL PROTECTION.

This report strongly advocates a protective duty as being absolutely necessary to a new country's progress, and "the protection must be adequate or it is no protection," and to be adequate it must enable the manufacturer or producer "to sell his product in competition with the imported article." If the commission's report is accepted as an index to what the new convention will arrange no reduction in duties will be made. An increase of duty is recommended in many cases, while but few reductions appear in the recommendations. In the report the principle "of admitting raw materials free, where there is no valid reason against such course," has been followed.

The list of the industries represented by witnesses appearing before the commission is interesting as forming the scope of the inquiry and enabling us to form some conception of the character of industries which, afforded adequate protection, will, it is considered, prosper in Natal. Some of the industries are well known as very important to the colony, but the greater number are in but their initial stages. The complete list of industries comprises:

Bricks, fire bricks, and "hollow bricks" for buildings; building; candles; cement; chemical works, including manures, disinfectants, dips, cattle food, chemical compounds, tinctures, Dutch medicines, etc.; cigarettes; confectionery, including cakes, biscuits, and sweetmeats; creameries; distilling; foods (patent); fruit-syrup manufacturing; iron and brass engineering, including engine and boiler making, casting, iron structural work, rolling stock erection, agricultural implements, and pig iron; leather, including tanning, boots, shoes, leggings, belting, bags, harness, and saddlery; matches; milling, including products from wheat and maize; paper making; printing, including bookbinding; preserving, condiments, curry powders, sauces, jams, chutneys, and pickles; planting, including sugar, tea, tobacco, etc.; soap making, including oil pressing and glycerin; tailoring and apparel; tent, sail, sack, and tarpaulin manufacturing; wagon and carriage building; zinc and tinware manufacturing, including ridging, guttering, downfall pipes, baths, pails, dairy utensils, etc.

The question of British preference is considered by the commissioners, and although they evidently are in favor of embodying a preferential clause in the new convention they make no definite recommendations, because the task of procuring the data necessary would have been impossible within the time afforded them. It is stated, "that, so far as witnesses have referred to the amount of preference to be allowed to the United Kingdom and reciprocating colonies, they have practically been unanimous in suggesting an increase upon the present 3 per cent, which appears to be ineffective and consequently generally considered insufficient to evoke any marked appreciation on the part of those it is intended to favor."

The commission does not favor an all-round increase to 5 per cent, but prefers that on certain articles the rebate be arbitrarily fixed, and then a general rebate for other articles not specifically mentioned. The question of discontinuing the rebates will no doubt be considered by the convention when it meets at Pretoria, as I am informed that the delegates to the convention are by no means unanimously in favor of including a preference clause for United Kingdom and reciprocating colonies in the next customs union.

THE [illegible] RATE FACTOR.

Another question [illegible] heretofore has been [illegible] country, is that [illegible] of South Africa [illegible] ments, and [illegible] represent[illegible] product[illegible] coast [illegible] prod[illegible] to d[illegible] wh[illegible] a[illegible] contains a [illegible] the effect that

$27.98 per ton, and the preferential rate on Natal tea is $12.56; on imported sugar the rate is $23.93, and on Natal sugar $10.94 per ton. The railway for its transportation either receives an abnormal profit for the imported article or carries the Natal article at a great loss. It is the opinion of the commissioners that these preferential "rates should be abolished, and that an equivalent compensation be given such industries as would be injuriously affected by such abolition by means of increased customs duties at the port."

The foregoing contains but some of the points more important to American exporters contained in the Natal commission's report, and is valuable only as indicating the position recommended to be taken by Natal's representatives at the forthcoming customs conference. The recommendations may be entirely ignored, but when considered in connection with the reports of the commissions in other colonies should furnish a very good forecast of the convention's work.

BULGARIA.

EXPORT OF WHITE CLAY PROHIBITED.

By the decree of May 6–19, 1908, the exportation of white clay from Bulgaria is prohibited. The measure is intended for the benefit of the national pottery industry.

CHINA.

REGULATIONS GOVERNING CERTAIN IMPORTATIONS INTO CHEFOO.

Vice-Consul-General C. L. L. Williams transmits the following regulations adopted by the consular body of Chefoo on February 26, 1908, signed by American Consul-General John Fowler as senior consul, and approved by the diplomatic corps:

RULE 1. The following regulations may be enforced at such times and applied to such place or places in the same manner as is now done in the case of the sanitary regulations of the port of Chefoo, either independently or concurrently with the said regulations.

RULE 2. The importation of the following articles is prohibited: Rags, old clothes, old bedding, old cotton or wool, old cotton or woolen material of any kind, old skins or skin clothing, earth, mold, or sand.

RULE 3. The importation of the following articles is prohibited, except under the conditions set out below: (*a*) Furs, silks, hair, if accompanied by a certificate of disinfection giving marks for identification from the medical officer of the port of shipment; (*b*) fresh fruit, if in sound condition and free from adhering soil; (*c*) vegetables, if cleanly packed as cargo; (*d*) coffins containing corpses, if accompanied by a satisfactory certificate as to the cause of death, or that death occurred six months before importation; (*e*) old gunny bags and old papers, if accompanied by a certificate of disinfection and after disinfection again at the Chefoo sanitary station.

COLLECTION OF DUTY ON GOODS SHIPPED TO NEW PORTS IN MANCHURIA.

Chargé d'Affaires Henry P. Fletcher transmits from Peking a copy of the new so-called experimental regulations drawn up to facilitate trade between certain seaports and interior points. These regulations are as follows:

1. All foreign goods which have paid the regular import duty at Tientsin, Newchwang, Antung, or Dalny, as well as all native goods which have paid the coast-trade half duty (except such as may be sent into the interior, either under transit pass or by paying likin, as may still be done at the discretion of

the owner and under the old regulations), and which are intended for transshipment to any of the newly opened ports in Manchuria, will be given a special certificate exempting them from the payment of further duty, and this is irrespective of how such goods are to be transshipped to their destination. This special certificate will be stamped in accordance with regulations, and will be good for two months only.

Whenever such certificates are applied for, a signed declaration must be presented showing to what port the goods are consigned, and stating that in case evidence of the arrival of the goods in the port mentioned is not forthcoming within the two-month limit the applicant will be willing to forfeit three times the amount of the half duty. In order to avoid the trouble of preparing a guaranty on each occasion, however, it will be permissible to draw up a bond of a similar nature which will hold for a year, and to deposit the same in the custom-house. Such bond, if presented by a foreigner, must be sealed by a consular officer, and if presented by a Chinese must be sealed by the commissioner of customs. If a yearly bond is not furnished, then a signed declaration made for each shipment will suffice. The forms for these bonds and declarations shall be determined upon by the imperial maritime customs.

2. In all cases where goods are shipped to the newly-opened ports under special certificate, such goods must correspond exactly with the declaration.

In case of any discrepancy or of the shipment of any goods not on the declaration, not only will the custom-house where such declaration was made collect a fine amounting to three times the half duty levied upon the entire shipment, but the goods which have been shipped to the newly-opened port will there be confiscated.

COSTA RICA.

BANANA CONTRACTS AND EXPORT TAX.

Consul Chester Donaldson reports from Port Limon, under date of April 28, that the Costa Rican Congress, now convened in special session, has approved the bill placing an export tax on bananas of 1 cent, American gold, per bunch for "firsts" and one-half cent on "seconds" for the next ten years; also approving the contracts with the private planters, by which the United Fruit Company agrees to pay the planter 30 cents, American gold, for "firsts" and 15 cents for "seconds."

VENEZUELA.

CLASSIFICATION OF ROOFING TILES.

Consul E. H. Plumacher reports from Maracaibo that, according to the Venezuelan decree of April 8, roofing tiles prepared with asphalt and granite are dutiable, according to Class 2 of the tariff (1.93 cents per 2.2 pounds).

MEXICO.

REPEAL OF EXPORT DUTIES ON HENEQUEN.

Consul Wm. W. Canada, of Veracruz, transmits a copy of a law promulgated April 23, 1908, by which the export duty on henequen is repealed. The duty was at the rate of 50 cents Mexican per 100 kilos (about 25 cents American currency per 220 pounds). By proclamation of the President of the Mexican Republic the export duty on henequen exported since February 16, 1908, is to be refunded to the shippers.

PROPOSED INCREASE OF DUTIES.

The British Board of Trade Journal of May 28, 1908, contains a communication received by the British foreign office to the effect that

on May 21 a bill was submitted to the Mexican Congress by the minister of finance, proposing to raise the import duties on iron and steel and manufactures thereof, cement, lime, jute, and jute sacking. The measure, if passed during the present session, will take effect from August 16.

EGYPT.

COMMERCIAL AGREEMENT WITH ITALY.

Vice-Consul W. B. Cutting, jr., of Milan, Italy, reports that the commercial convention between Italy and Egypt, which is now before the Italian Senate for approval, contains as its principal clause the agreement by Egypt not to raise the duty on the chief products of Italian agriculture and industry above the level of 8 per cent. The few articles excepted from this undertaking are not such as enter largely into Italo-Egyptian commerce.

JAPAN.

AMENDMENTS TO THE CUSTOMS TARIFF.

Consul-General Henry B. Miller, of Yokohama, reports that the following new Japanese rates of duty will go into effect October 1, 1908:

Tariff No.	Article.	Unit of quantity.	Rate of duty.
112	Acetic acid	100 kin [a]	$3.98
134 II	Calcium acetate	do	.204
134 III	Acetone	do	7.58

[a] One hundred kin=132.29 pounds.

The consul-general also transmits a translation of law No. 41, promulgated April 1, 1908, relating to mineral oils, and adds that it is reported that the Government will not put the law into effect until April 1, 1909. The law follows:

LAW NO. 41.

The import tariff is revised as follows:

No. 172, Mineral oils:

1. Crude oil, not exceeding the following per centage of original liquid, distillable between 120° and 275° Centigrade by means of graduated distillation—
   - A. 20 per cent—per 10 American gallons— $0.085
   - B. 25 per cent—do— .105
   - C. 30 per cent—do— .125
   - D. 35 per cent—do— .145
   - E. 40 per cent—do— .165
   - F. Others—do— .180

   Liquid exceeding 45 per cent is subject to an additional duty at the rate of 1 sen (half cent) per 10 American gallons for every additional 1 per cent.
2. All others, at 15° Centigrade, specific gravity not exceeding—
   - A. 0.730—per cent ad valorum— 20
   - B. 0.875—per 10 American gallons— $0.478
   - C. All others—per 132.29 pounds— $0.612

The date on which this law shall take effect shall be promulgated by an imperial ordinance.

TURKEY.

ADMISSION OF MOTOR CARS.

Consul-General Edward H. Ozmun, of Constantinople, transmits the following instructions, which have been issued to the Turkish custom-house authorities with regard to the admission of motor cars into that country:

Fifteen per cent of the invoice price will be added for packing and freight; if the freight is included in the invoice, only 10 per cent will be added. On this total a discount of 10 per cent will be allowed, and the duty will be levied on the remainder.

As regards cars in transit, they will be allowed six months to pass through the country. A lead seal will be attached by the customs authorities to a prominent part of the motor car, which until further orders, if unprovided with an invoice, will be estimated at a minimum of 25,000 or maximum of 40,000 piasters (from $1,100 to $1,760). On this amount 10 per cent will be taken for duty and only returned, less transit duty of 1 per cent, when the car is leaving the country, against presentation of the original receipt given by the customs authorities, which must contain the name of the owner of the car, the builder, the numbers, and any distinctive marks on the machine.

FRANCO-CANADIAN TREATY.

RECIPROCAL TRADE ADVANTAGES SECURED BY THE TWO COUNTRIES.

Consul-General Frank H. Mason, writing from Paris under date of April 2, 1908, submits the following report on the reciprocity treaty recently concluded between France and Canada:

On September 19, 1907, there was concluded and signed at Paris by a commission representing respectively the Governments of France and Canada, a convention or treaty of reciprocity and commerce, which is destined to ameliorate and stimulate in an important degree the commercial relations between the two countries.

The convention, as negotiated and signed, was presented to the French Chamber of Deputies November 28, 1907, and was in due course approved and ratified by that body. It has also been approved by the lower House of Parliament of Canada, and is now before the respective Senates of both Governments for final ratification.[a] It may, in the course of such final discussion, undergo slight amendments as to minor details of the schedules, but no doubt is entertained that the convention will be ratified substantially in its present form within a few weeks and shortly thereafter will be carried into effect. It may be, therefore, of timely interest to note briefly the general character of this important treaty of commerce and how it will be likely to affect more or less directly certain classes of American exports to France.

GENERAL PROVISIONS OF THE TREATY.

The preamble which forms the statement of purposes (exposé des motifs), with which the convention was presented to the Chamber

[a] The treaty has since been approved by the Canadian Senate and is now awaiting ratification by the French Senate.—B. of M.

of Deputies, recites that the now existing regulations render numerous important articles of export and import between France and the Dominion of Canada subject to duties which unduly hamper and restrict reciprocal trade between the two countries, and that the pending treaty is therefore constructed for the express purpose of granting to a long list of Canadian products the advantage of the minimum tariff duties when imported by direct transit into France, and of conceding reciprocal ameliorations and advantages to a corresponding list of French products and manufactures when imported into Canada.

In effect, each Government grants to the other in respect to their direct reciprocal trade, in certain specified classes of merchandise, the advantages conceded by each to the most favored nation, and on the part of Canada these privileges are conceded not only to France but to Algeria and other French colonies, including the Protectorate of Indo-China.

NEW SCHEDULE OF DUTIES ON IMPORTS FROM CANADA.

The special interest which attaches to this negotiation from the American standpoint centers mainly in the long and important list of articles—products of the soil, mines, forest, and factories of Canada—which will henceforth have access to France under the minimum schedule of the French dual tariff, where they will compete under decisive advantages with similar products of the United States which are subject on importation into France to the maximum rates.

Schedule A of the treaty contains a list of more than 350 minimum rates of duty which are to apply to goods of Canadian origin.[a] They cover substantially not only the whole present field of Canadian exports to France, but include a number of articles not hitherto imported to any important extent from Canada, but which will assume new importance under the reduced rates of duty.

As a practical illustration of the normal effect of the treaty there are selected from the list a few articles of leading importance which are produced for export in both Canada and the United States.

EFFECT OF UNEQUAL IMPORT DUTIES.

The few selected articles will indicate sufficiently for the present purpose the disadvantageous position of many American imports to France in comparison with similar goods from Great Britain, Germany, Belgium, and other most favored European nations, and into which favored class Canada is about to enter. As a pertinent illustration of the effect of this unequal tariff rate, the item of agricultural machinery will serve. During the year 1907 there were sold in France approximately 16,000 binders, 55,000 mowers, and 10,000 reapers, a total of 81,000 large machines, besides a corresponding number of horse hayrakes, tedders, and other smaller farm implements. Of these it is calculated that about 12,000 binders, 38,000 mowers, and 8,000 reapers, in all 58,000 machines, were made in the United States, and about 2,900 binders, 7,000 mowers, and 1,700

[a] The schedule is published in a separate reprint, which can be obtained from the Bureau of Manufactures upon application.

reapers—in all 11,600 machines—were of Canadian and British origin, chiefly Canadian.

The difference between maximum and minimum French duties on agricultural machinery figures out, as has been stated in a previous report, to $3.86 on a mower, $4.82 on a reaper, $8.20 on a binder, and $1.93 on a hayrake. This disparity of import duties is sufficient, in addition to the high cost of steel, wood, and labor in the United States, to put the importers in France of American harvesting machinery at a disadvantage that will imperil their present splendid trade as soon as Germany, Great Britain, and henceforth Canada, can develop their production so as to cover the French market. Already the Canadian manufacturers are preparing to improve the larger opportunity that will be offered here, and it is reported that a harvesting machinery plant in Canada, which belongs to the American syndicate, will be enlarged and worked to its highest capacity for the export trade to France. The pending situation, if indefinitely prolonged, may result in transferring largely to Canadian territory this and several other industries which have been built up and have their native home in the United States.

MANUFACTURING QUESTIONS INVOLVED.

Equally suggestive is the situation of the trade in machine tools, and the important group of electrical motors, generators, materials, and fixtures of various types, particularly those of the smaller sizes. Reference to the table will show that the disparity between maximum and minimum duties on such articles increases rapidly as their weight diminishes

The result of all this is that French companies, even when managed by American engineers, are compelled by differences in duties to buy such fixtures and machine tools of German or British manufacturers, when they would otherwise prefer those of American origin, to which they have hitherto been accustomed.

Similar difficulties are experienced in other lines of imported manufactures from the United States, and the first question which is asked by an experienced merchant in this country, who is asked to purchase or accept as agent the representation of American-made goods, is how they stand as regards import duty in comparison with similar articles from the neighboring countries which enjoy the treatment accorded most favored nations.

THE ADVANTAGES CONCEDED TO FRANCE.

France will secure by the terms of the pending treaty the admission of ninety-seven articles—almost exclusively manufactured goods—into Canada at the reduced rates prescribed (Schedule B of the treaty) by what is known as the "Intermediate Tariff," which are the lowest that are applied to similar products coming from any foreign country. In addition to this, twelve articles of French origin will be admitted to Canada under a schedule of special rates which form Schedule C of the treaty. These special rates fix the duties on still wines at from 15 to 70 cents per gallon, according to percentage of alcohol contained; $3.30 per dozen quarts on champagne; 15 per cent ad valorem on books; 25 per cent on drugs and medicines, 27½ per cent

on laces and embroideries, and 20 per cent on silk, velvets, and tissues, etc., all of which are important reductions from the general tariff schedule of Canada.

The conclusion of this convention furnishes another concrete object lesson illustrating the advantages of the modern European system which has been used so effectively by Germany and France. This system has for its basis a dual tariff, with a general or maximum schedule to be enforced against imports from countries which have no special treaty arrangements with them, and a minimum schedule ranging from 20 to 50 per cent, or even more, below the maximum, and which is conceded to imports from countries which, by treaty of reciprocity, secure the advantages granted to most favored nations.

Such a dual tariff system, as that of Germany, for instance, was prepared after long and careful study by a commission of experts representing not only the Government, but every industrial, agricultural, and commercial interest of the country. When the tariff law had been enacted, another board of experts was assigned to the task of making, under its provisions, reciprocal treaties of commerce with foreign countries. France is pursuing a similar policy, the keynote of which is to secure an equivalent advantage for every concession in import duties which may be granted to a foreign State.

FISHERIES.

MARINE PRODUCTS TRADE.

NETHERLANDS.

EXTENT OF THE HERRING CATCH—VALUE OF THE EXPORT TRADE.

The following information, giving full details of the Dutch herring fisheries, is furnished by Consular Agent A. C. Nelson, of Schiedam:

That fishing has been one of Holland's important means of subsistence is natural, the country being bounded on two sides by the North Sea, and containing within itself the Zuider Zee, both waters having been always noted for their abundance of fish. Besides, all the towns surrounding small harbors along the North Sea coast are indebted solely to fisheries for their existence, being cut off by the sand dunes from the fertile soil of the country, and their harbors only capable of accommodating small fishing vessels.

In spite of the long-established trade in Dutch pickled herring in the world's markets, the exports thereof to the United States are of comparatively recent date, for it is only within the last twenty years that the exports thereto have assumed any noteworthy proportions, but the United States to-day stands next to Germany as the largest market for Dutch herring. The export of pickled herring from Holland to the United States for the fiscal year 1902 amounted to 131,518 barrels, valued at $736,504, while the export for the year 1907 amounted to 192,136 barrels, valued at $960,683.

As this growing popularity of Dutch pickled herring among the population of the United States is undoubtedly due to the superiority of the product over that of any other country, it should be of interest to American fishermen and fish dealers to learn something about the methods followed by the Hollanders by which they have succeeded in leading the world in this respect.

CATCHING THE HERRING.

The herring is caught in the North Sea, between Holland, England, Iceland, Norway, and Denmark. In the beginning of the fishing season (the first part of June) the fishing boats go as far north as the sixty-first degree of latitude, in line with the Shetland Islands, where the best quality of herring is caught—the so-called "Northcatch." Gradually the herring moves southward, but even in the months of September and October successful fishing is done around the fifty-ninth degree. In November and the beginning of December the fishing is done along the English coast, near Lowestoft and Yarmouth, and even in the English Channel and along the coast of Holland, but the herring caught here is smaller and not so fat; this is called "Southcatch" and "Shoreherring."

Lerwick, on the Shetland Islands, has long been used as a landing place and wharf by the Dutch fishing fleet, and formerly the Dutch

fishing firms established regular steamship connection between this place and Holland during the fishing season, in order to bring the herring as quickly as possible on the market. Since 1892 it has, for some reason or other, been impossible for all the different firms to agree on that point, and only a few of the largest firms are now sending their own steamers there to fetch the first herring catch. The other shipowners let their vessels unload their first catch of herring at Lerwick in order to have it shipped from there to Holland on stray steamers via Leith or Harwich, as soon as possible. In old days it was not unusual to secure as high as $30 per barrel for the first herring arriving in Holland, and even in 1906 from $7 to $11.34 per barrel was paid for 1,200 barrels of herring, which reached Holland via Leith in the middle of June. Shipowners therefore endeavor to get the first herring quickly on the market.

PICKLING THE FISH—QUALITIES.

The pickling of the herring on all Dutch fishing boats is done on board, as soon as the herring is on the deck. First, every herring is "gekaakt," which means that a triangular piece is cut out of the neck of the herring with a knife and the intestines removed. The herring is then packed with salt in barrels, and is ready for shipment, as the necessary brine or pickle is forming in the barrel. This method is claimed by the Dutch to be much superior to the methods used by other fishermen, who salt the herring whole on board and have them cleaned only after they are brought on shore and partly pickled.

All Dutch herring is divided into "Northcatch" and "Southcatch" or "Shoreherring," and as the Northcatch herring is the largest and fattest it furnishes the best qualities. It is claimed by the exporters that there is in the United States a market for the best qualities only, and that consequently only the best qualities are exported thereto.

The two best qualities of herring are: Prima full milters and prima full herring. As the name indicates the first sort consists exclusively of the fat male herring, while the second grade consists of both males and females.

THE HERRING FLEET.

In the year 1888 the fleet consisted of but 456 vessels, which had increased to 615 in 1898, and had reached the highest number on record in 1903, namely, 777, of which 45 were steamboats. In 1907 only 756 vessels took part in the work, owing to the low prices of fish in that year. The number of men engaged in the fisheries have averaged 10,000 during the last five years. According to published official statistics for 1906, the fishing fleet consisted of 733 ships, of which 39 were steamships. This fleet brought on shore 745,590 barrels of pickled herring (each barrel contains about 870 herring), valued at 11,856,372 florins ($4,766,242).

As far as can be ascertained, the catch in 1907 amounted to 794,242 barrels, but its value was less than that of 1906, as the average price for the fish only reached $4.80 per barrel, while the average price in 1906 was $6.40. The reason for the low prices in 1907 was partly ascribed to the rich catch of the English and Scotch fisheries.

Besides, the Germans caught a great deal more last year than formerly, which fact had a depressing effect on the Dutch market, as Germany is the largest purchaser of Dutch herring. It is stated unofficially that there were stored in Holland on December 31, 1907, 142,403 barrels of herring, against 80,846 barrels on the same date in 1906.

SMOKED HERRING AND HERRING SALES.

The so-called "Bokking" are salted without first being "gekaakt," and smoked after they are brought on shore. This sort of herring is almost exclusively exported to Germany and Belgium. The quantity of smoked herring exported in 1906 was as follows, in pounds, gross weight: To Germany, 5,033,501; Belgium, 2,896,814; Greece, 36,409; Argentina, 24,470; Roumania, 11,243; Italy, 11,056; United States, 4,124.

The herring are disposed of at the so-called "afslag," auction sales, in the different fishing towns. The market price, however, is fixed according to the price reached at the Vlaardingen "afslag," as the sales held in other places are unimportant compared with those at that place. Those sales are not public, inasmuch as it is only the firms and shipowners having "seats" who are allowed to buy and sell.

The principals of the large export firms are, as a rule, directors in one or more ship-owning concerns, and it is seldom that a man who is a shipowner but not a merchant, appears at the auction sale as seller. Much herring is sold outside the "afslag," but the Vlaardingen auction price is in such cases also adhered to. Commissions on sales generally range from one-half to one per cent. The herring is bought without being seen, but with the right of the buyer reserved to examine the herring later on and, if he finds reason therefor, he can refuse to accept it. However, the shipowners and fishermen have found it to their advantage to keep up the quality, and it is seldom that sales occasion disagreements in this regard.

FISHING CREWS.

The crew on board a fishing boat generally consists of 16 men, including 1 machinist and 1 stoker on steam vessels, and from 13 to 15 men on sailing vessels. Every man on board has a certain percentage of the catch according to his rank.

The following weekly scale of pay on steam vessels is that which prevails at Vlaardingen and Maassluis, the percentage being additional to the weekly pay:

Description.	Weekly pay.	Percentage.	Description.	Weekly pay.	Percentage.
Captain	$5.25	2	Boy	$1.00	¼
Mate	2.60	1¼	Do	.65¼	¼
Sailors	2.60	1	Machinist	4.70	1
Oldest ordinary	1.95	¾	Stoker	3.75	1
Youngest ordinary	1.50	⅝			

On sailing ships the captains and mates are paid in percentages, the first receiving 4 per cent, and the second 2¼ per cent. The crews receive percentages with weekly guaranties.

The percentage is figured from the market price after a deduction of 2 florins (80.4 cents) per barrel. As a rule each crew gets 3 to 4 barrels of herring to divide after each trip. The crew also gets half

of the profit of the mackerel caught during the trip. In hand money for a season's contract each sailor gets 25 florins ($10) and the rest of the crew according to rank. Of course, board is furnished during the trip by the shipowners. Every one of the crew must, when signing the contract, show proof that he is insured against accidents during the trips. The families of perished fishermen are supported from relief funds. The relief fund in Scheveningen has a capital of $80,000, and that at Vlaardingen $40,000. In Vlaardingen $4,646 was given in 1906 in support of 62 widows, 3 wives, 65 orphans, and 84 old sailors.

During the year 1906 26 fishermen perished, of whom 12 were married, leaving 12 widows, and 39 children. In 1905 77 fishermen perished and left 31 widows and 139 children.

EXPORTS OF PICKLED HERRING TO THE SEVERAL COUNTRIES.

The export of pickled herring to the United States begins in the latter part of July, and during August, September, and October it is in full operation. During November it gradually falls off, with comparatively few shipments in December, but with the beginning of the new year American orders again increase, and during January and February the shippers are busy.

The exports of pickled herring to the several countries in 1906, the last year for which statistics are available, were as follows:

Countries.	Quantity.	Countries.	Quantity.	Countries.	Quantity.
	Pounds.		*Pounds.*		*Pounds.*
United States	25,581,349	Denmark	1,147,596	Argentina	41,343
Germany:		England	552,556	Italy	25,947
Prussia	134,801,801	Roumania	510,452	All other countries	14,192
Hamburg	12,981,275	Norway	462,249		
Mecklenburg	155,424	Russia	370,207	Total (613,603 barrels)	202,912,457
Lubeck	84,877	Africa	89,511		
Belgium	14,637,102	Dutch East Indies	52,099		
Sweden	11,353,297	Turkey	51,180		

[A list of the leading Dutch exporters of herring accompanied the consular agent's report, and is on file in the Bureau of Manufactures.]

NORWAY.

RESULT OF THE WINTER'S FISHING FOR COD—CURRENT PRICES.

Consul-General Henry Bordewich, writing from Christiania under date of May 7, says that the Norwegian winter cod fisheries of 1908 were drawing to a close, with the following results:

On the Finmarken coast, far to the north, the work will probably be continued another month. The total catch for the season, up to and including May 4, has been 37,800,000 cod, converted into marketable products as follows: 13,500,000 air-dried stockfish (round); 23,400,000 salted common codfish; 49,100 hectoliters medicinal oil (1 hectoliter=26⅔ gallons); 17,209 hectoliters mechanical oil; 41,095 barrels salted roes.

The roes are disposed of in the French market where they are used in the sardine fisheries. The 1908 output of medicinal oil is more than 10,000 hectoliters larger than in any of the two preceding years. Ruling prices are: Steamed medicinal and new crude medicinal oil,

48 kroner, or $12.86, per barrel of 30 gallons; mechanical oil (brown), 32.5 kroner, or $8.70, per barrel.

The season's catch of stockfish and salted cod, which is still undergoing the process of preparation, has not as yet made its appearance in the market; hence no prices can be quoted.

The Finmarken fisheries may possibly swell the year's catch of winter cod to 40,000,000 to 41,000,000 fish. The Finmarken fisheries are very uncertain, and only a portion of the fishermen take part in them.

TOTAL CATCH OF COD—REDUCED EXPORTS OF HERRING.

Supplementing the consular report from Christiania on the Norwegian catch of codfish, Consul Felix S. S. Johnson writes as follows from Bergen under date of May 9:

The cod fishing for the week ended April 25 makes the end of the Lofoten season, with a quantity of 13,300,000, as against 18,700,000 and 18,600,000 in 1907 and 1906, respectively. The total catch of the season for the whole country up to April 25 amounts to 35,400,000, against 36,200,000 in 1907 and 36,100,000 in 1906 by that date. The corresponding figures were, for steam-refined medicinal oil, 47,969, 36,387, and 33,177 hectoliters (hectoliter=26⅜ gallons), and for raw livers for making oils 13,727, 12,720, and 10,060 hectoliters, respectively. All cod fisheries south of Finmarken may now be considered as over, while in Lofoten the official inspection was discontinued on April 25. In Finmarken the quantity up to the date named amounted to 2,100,000 of cods, against 3,200,000 last year. For last week the quantity was 800,000.

The aggregate quantity of spring herring may now be put down at 356,000 crans, mostly exported on ice, against 550,000 crans in 1907.

ASIATIC TURKEY.

METHODS OF PROCURING, PREPARATION, AND MARKETING SPONGES.

Consul Ernest L. Harris, writing from Smyrna, supplies the following particulars of the sponge-fishing industry in the eastern Mediterranean waters:

Sponges are a product of the Ægean Sea, especially about the islands of Rhodes, Syme, Kalymnos, and Cos, while Smyrna is usually the place of market. Sponges are also found near Sicily, on the north coast of Africa, and in the Red Sea. All these not only compete with each other in the world's markets, but they have some difficulty in holding their own against the sponges found among the West Indian Islands.

Sponge fishing is the most important industry of the inhabitants of the islands lying off the main coast of Asia Minor. Thousands of seamen every year are busy cleaning, drying, and bleaching sponges, a work which is not always of a pleasant nature, considering the number of lives lost in stormy seas and in diving.

When sponges are first torn from the sea bed, they are of a dark color and living. By tramping and pressing them with the feet a milky substance oozes out, whereupon the sponge dies. They are then immersed in the sea for a space of eight or ten hours. The

dark, skinny substance is then removed by scraping and gradually, through cleaning, drying, and bleaching, they take on the fine yellow color which characterizes many of them. It is said that the sponges taken from deep beds are better than those found in shallow water.

The price of sponges depends upon the quality, and they are sold either by the pound or by the piece. The unwashed qualities sell for $3.50 to $13 per oke (2.81 pounds). For the washed product, considering the loss in weight resulting from washing and trimming, which amounts to about 75 per cent, prices vary between $13 and $44 per oke. The prices of sponges sold per piece can not be estimated, except on examination by an expert.

CHINA.

GOVERNMENT INTEREST IN PROMOTING THE SEA FISHING INDUSTRY.

Consul Wilbur T. Gracey, of Tsingtau, China, transmits the following information regarding the fishing industry of China in general, and Shantung province in particular:

The acting governor of Shantung has recently sent a report to the ministry of agriculture and commerce, regarding the coast and sea fishing of China, in which he calls attention to the fact that everything secured from the sea finds a ready market in China, and even when such sea products are spoiled they are used for oils and fertilizers, both of which are much needed in the Empire. In order that the Chinese people should become better acquainted with the products of the ocean, and increase their skill in securing them, schools have been opened in ten places in China where teachers and scholars are engaged in work which is expected to increase their knowledge of this subject. By a combined tabulation of the entire coast country the governor estimates that the annual gain to China from the fisheries is something over $8,000,000 United States currency, the exports annually amounting in value to about $1,165,000.

The governor suggests that the industry be divided into three great districts, so that with the aid of modern methods, combined with skill and practice, the output may be increased. Chihli and Shantung provinces should form the first of these districts, Kiangsu and Chekiang provinces the second, and Fukien and Kwangtung the third. Each of these districts should maintain schools to familiarize the people with the growth and development of the various sea animals, kinds and use of various nets, preservation and preparation of the catch, etc., in order that the best methods and greatest care may be used in the preservation of the aquatic food supply. He suggests that exact charts should be prepared in order that the governors may be able to determine the limits of their authority and that the bounds and rights of each district can be clearly defined.

EXPOSITIONS.

INTERNATIONAL DISPLAYS.

AUSTRIA.

EXTENSIVE EXHIBITS AT THE CITY OF PRAGUE.

Consul Joseph I. Brittain furnishes the following report concerning the Bohemian exposition, now being held in the city of Prague:

This exposition, to be open from May until November this year, will be something quite outside of the usual exposition representing the industries of a small territory. The Bohemians are an exceedingly industrious people and desire that their country should maintain the important commercial position it has acquired during the past fifty years. However, it is a country much neglected by American exporters. The opinion appears to prevail that the Bohemian financial and commercial institutions are not established on a substantial basis. This impression is a very erroneous one, and should not for a moment be entertained. Instead of American exporters contenting themselves with placing the sale of their wares in the hands of some foreign importing house, they should come to Prague and investigate for themselves.

Prague is not only one of the most beautiful cities in Europe, it is also one of the most important from a commercial standpoint. The Bohemians have gathered into Prague and its vicinity a large percentage of the varied industries of the entire country.

PROMINENCE OF THE CHAMBER OF COMMERCE.

The Prague chamber of commerce counts in its domain 110,000 self-supporting industries of a commercial nature, which pay over $2,233,000 taxes, more than half the industrial taxes paid in Bohemia, and one-seventh of the entire commercial taxes paid in the Austrian Empire. The domain of the Prague chamber of commerce includes 25 per cent of the area of Bohemia and 35 per cent of the population. Its interests pay 45 per cent of the personal-income taxes and 50 per cent of the commercial taxes. The savings-banks deposits of the district make 35 per cent and the loan-banks deposits 45 per cent of the total deposits of the two class institutions in Bohemia.

The exposition will in consequence be of unusual interest, showing what is possible in a small territory peopled by industrious and enterprising inhabitants. There will be 2,300 exhibitors. The chamber of commerce, aside from administration buildings, has erected 21 large exposition halls, and 100 smaller halls have been built by separate exhibitors. The machine industry will count 100 exhibitors, one display consisting of two complete trains of day coaches, sleepers, and restaurant cars, constructed here after the best models.

The various industries of the same description are to be grouped together either in one building or in one part of the grounds. Thus

there will be one hall devoted to interior furnishings, separate compartments representing every description of room from a ballroom to a kitchen. The glass, glove, stonework, metal, chemical, iron, textile, and clothing industries will each be separated, and there will be a fine exhibit of peasant art work, handmade laces and embroidery. Naturally, the distilling and beer-brewing industries will be prominent. A great effort has been made to systematize every department of the exposition.

ITALY.

EXHIBIT AT MILAN OF APPLIANCES FOR SHIPPING GOODS.

Vice-Consul W. Bayard Cutting, jr., reports that the Milan consulate has received the draft programme of the first international exhibition of the new society, the Esposizione Industriale Permanente, of Milan. He describes their plans for a "packing" exposition as follows:

This society has been formed in imitation of such associations as the German Muster-Läger. Its first object is to organize a permanent exhibit of the chief products of Italian agriculture and manufactures. Foreigners, however, are to be allowed to exhibit, but in a different part of the exhibition building reserved exclusively for them.

In addition to this permanent exposition of all kinds of products, which is still no more than a project in its preliminary stages, the association plans to hold from time to time—twice a year if possible—temporary exhibitions, open to all nations on equal terms and devoted to some single industry or group of industries. The first of these temporary exhibitions is to take place in the spring of 1909, and will have as its subject packing apparatus and appliances. A light, solid, and cheap packing case, safely fastened, is an important adjunct to international trade. The Italians wish to learn what other nations have done and can do along these lines, and invite foreigners to join them in a practical study of the question.

CLASSES OF EXHIBITS.

The term "packing," says the programme received by the consulate, embraces a wide variety of products and raw materials, from a wooden crate coarsely bound with iron to a flask of thin glass, from a hatbox to a hogshead. There are also the various accessories, leaden seals, tin capsules, cords, covers, shavings, cotton, wool, labels, ribands, lace paper, sealing wax, etc.; everything, in fact, that is used in the process of packing. Special features of the exhibition will be the decorative packing cases class, where the potential utilization of the case by the purchaser will be accounted the principal merit, and the exhibit of packing methods for samples and the stock of commercial travelers.

American firms who may be interested in taking part in the packing exhibition are invited to correspond directly with Avv. Giuseppe Serralunga Langhi, Esposizione Industriale Permanente, 24 Corso Vittorio Emanuele, Milan, rather than with the consulate. The correspondence may be in English. The draft programme of the exhibition, with the probable division into classes, is forwarded [and may *be secured* from the Bureau of Manufactures].

During the exposition competitions in packing, with prizes, will be held. There will also be lectures on packing, packing appliances, and international exchanges.

This exhibition of packing appears a good opportunity for American firms to learn the methods of their various competitors in the Italian market, where not only native but foreign, and especially German, competition is of the keenest. They will also find an easy means of introducing into Italy a number of American devices for which it would be difficult otherwise to find a market.

GERMANY.

GERMAN SOCIETY ANNOUNCES AN INTERNATIONAL AFFAIR.

Count Hermann von Hatzfeldt-Wildenburg, counselor of the German Embassy in Washington, sends the following invitation for American participation in the forthcoming German hop and barley exposition:

The society entitled Experiment and Educational Institute for Brewing, of Berlin, intends to hold an international barley and hop exposition at Berlin, from October 10 to 18, to celebrate the twenty-fifth anniversary of its existence. The society, which is one of the largest technical and scientific brewing associations in the world, both on account of the number and the international distribution of its members, has also taken a special interest in promoting the culture of barley and hops during its twenty-five years' existence. In 1892 it founded the barley and hop culture station, under the supervision of Professor von Eckenbrecher, which, being maintained by the governments of the principal barley and hop producing countries, with the cooperation of influential rural-economic societies, has attained important results for German barley and hop culture by means of experiments systematically conducted on experiment grounds.

Since 1894 the society has been holding a barley and hop exposition at Berlin every year with the cooperation of the German Society for Rural Economy and the German Hop Raising Association. This exposition enables persons interested in the brewing business and barley and hop raisers to obtain a true idea of the result of the harvest. Foreign countries have hitherto also taken a lively interest in the expositions.

This year the barley and hop exposition will be made an international affair, and with it will be connected an international exposition of brewing machinery and brewery horses. The society hopes that the projected international exposition will benefit the commerce of countries participating in barley and hop culture and in the consumption of brewing materials, and that it will considerably increase the significance of these products in the world's commerce. It has also invited all interested parties in foreign countries to participate in the exposition and in the competition for prizes.

The board of managers of the exposition has suggested that a committee be organized for each nation whose farmers or brewers are specially interested in the exposition, for the purpose of soliciting exhibitors and transacting business with the exposition authorities. [Copies of a programme prepared by the society giving information

as to the composition and duties of such a committee, as well as announcements of the exposition plans and regulations governing same, may be secured from the Bureau of Manufactures.]

RUSSIA.

PERMANENT MERCANTILE EXPOSITION PLANNED AT WARSAW.

A business firm of Warsaw, Russia, writes to the Bureau of Manufactures that the Merchants' Association of that city "are contemplating to shortly establish, in a building specially provided for that purpose, a permanent exposition of articles and goods of all sorts manufactured beyond the limits of Russia, for the purpose of getting better acquainted with the foreign trade. The leading exporters and manufacturers of England, Austria, Hungary, Switzerland, Belgium, and France, as well as government institutions, like chambers of commerce of Austria and France, have already expressed their desire to promote the foregoing plan." The letter states further that one of the members of the firm writing is an American citizen, who desired to acquaint the business concerns of the United States with this opportunity.

EXTENSION OF TIME FOR CLOSING BUILDERS EXPOSITION.

In pursuance to a communication he has just received from the minister of foreign affairs at St. Petersburg, the chargé d'affaires ad interim of Russia at Washington advises that the exposition of products of the Building Art and Technical Industry, which was to continue at St. Petersburg from May 28 to August 28, shall remain opened until October 14, so as to afford greater facilities to foreigners desiring to take part therein.

SPAIN.

AGRICULTURAL EXPOSITION OF BASQUE PROVINCES.

Consul-General Richard Guenther, of Frankfort, advises that the German consul in Madrid reports to the Berlin Government that in September next an Agricultural Exposition of the Basque Provinces is to be held at Pamplona, Spain. The farmers of that country are progressive and favorably inclined toward using modern machinery and implements. Automobiles for carrying freight will also find much appreciation at this exposition as well as apparatus and chemicals for extirpating injurious insects. The German consul states that the exhibits will receive preferential transportation rates and will be exempt from paying customs duties if not sold.

BELGIUM.

INTERNATIONAL EXPOSITION AT BRUSSELS.

The minister of Belgium at Washington transmits copies of the programme, in the French language, of the International Exposition to be held at Brussels, Belgium, from April to November, 1910, under the patronage of the King of the Belgians. These programmes may be secured from the Bureau of Manufactures. The minister expresses his Government's earnest wishes that the Government of the United States will participate officially. He states that these programmes will be followed by English translations.

CHINA.

PERMANENT INDUSTRIAL EXHIBITION AT TIENTSIN.

Consul Wilbur T. Gracey, at Tsingtau, China, calls attention to the permanent industrial exhibition at Tientsin, in a report dated March 26, 1908:

Visitors at the Industrial Exhibition at the so-called public gardens in Hopei, Tientsin, which was opened last winter, were impressed with the credit which the exhibition gained not only among the Chinese, but also among the foreign population of the city, owing to the skillful arrangement, the diversity of the displays, and the practical manner in which the exhibition was carried out.

At the time of opening the exposition the large participation by foreigners, and of foreign products, was carefully considered, probably for the first time at a Chinese fair. It seems probable that this opportunity to exhibit the products of other countries will form an excellent method by which to advertise American goods.

REGULATIONS FOR THE DISPLAY OF GOODS.

The German consulate at Tientsin has recently informed the German merchants, through the newspapers of the Far East, of the method by which goods can be displayed.

First, all goods from foreign countries must be sent, charges prepaid, to the directors of the exhibition, and upon receipt will be displayed in the same manner as native goods. The displayed goods, however, are presented to the exhibition and can not be reclaimed.

Second, goods of all classes and sizes can be exhibited, the only prohibition being that goods of a dangerous nature, or which are unusable may be refused.

Third, all exhibits must be clearly marked with a description of their nature and use, and the name of the exhibitor, in both English and Chinese, and as well their place of manufacture, price, and materials used in the making.

Fourth, upon the goods being accepted for exhibition a receipt will be issued, and a letter of thanks written to the exhibitors.

Fifth, all goods accepted will be placed upon exhibition, but the manner of such display rests with the director of the exhibition, and can not be chosen by the exhibitor.

Sixth, the exhibitors must pay all transportation charges to the place of exhibition. On receipt of a written request, coolies will be sent to assist in the transportation of large displays or bulky goods, from the Tientsin wharves or station to the fair grounds.

Seventh, the following classes of goods are particularly mentioned as being considered worthy and advisable to exhibit: Pottery, glassware, gold and silverware, bamboo manufactures, paper, ivory ware, bone ware, all sorts and varieties of clocks and watches, hand power machines or wooden models of the same, clothes for Chinese and Europeans, toys, household utensils, paints and dyes, metals and minerals.

Eighth, the commission which has charge of the exhibition has the power to decide as to the time and duration of all exhibits. If at any time it appears necessary to exchange, sell or move goods to another place, the commission has the power to take such action as seems necessary without the consent of the exhibitor.

Ninth, the exhibition will not hold itself responsible for goods left in its charge, and will not be liable for accidental injury, loss, or destruction.

PROPOSED EXHIBITION AT NANKIN.

VICEROY PLANS A COMMERCIAL AND INDUSTRIAL DISPLAY.

Consul J. C. McNally sends the information that Viceroy Tuan Fang has under consideration the organization of a commercial and industrial exhibition at Nankin, the object of which is to demon-

strate to the world the variety and value of China's productions. The consul adds:

Plans are now being formulated to perfect an organization to select the location and present plans for the numerous buildings. The opening of the Shanghai-Nankin railway and the valuable river service will, it is thought, offer unusual facilities for passengers touching at Shanghai to witness at once the former capital of China, the viceregal city of the Liangkiang provinces with its interesting features, and the valuable products of China.

In anticipation of this important event, the viceroy has purchased several hundred acres of land encircled by a splendid driveway on which he proposes to build a public park, zoological gardens, and other interesting features.

MEXICO.

PREPARATION FOR A NATIONAL AFFAIR AT PUEBLA.

Advices from Puebla state that for the Mexican National Exposition to be held there in the spring of 1910 the San Juan ranch has been ceded to the board of management. The work of fencing the grounds and other initial work has been started. Lic. Gomez Haro is secretary.

MISCELLANEOUS.

MODERN PUBLIC UTILITIES.

TURKEY.

PRESENCE AND INFLUENCE OF FOREIGN POST-OFFICES.

In forwarding a list of the post-offices maintained by foreign governments in Turkey, Consul Ernest L. Harris, of Smyrna, comments as follows:

Foreign post-offices in Turkey owe their origin to the privilege formerly enjoyed by foreign merchants of sending their correspondence by the couriers of their respective missions. The right of the missions to these couriers was recognized in the treaties with Russia and Austria in the early part of the eighteenth century, and especially in the commercial treaty with Russia of 1783, which, together with the clause of the most favored nation, constitutes the right upon which foreign post-offices in Turkey are maintained.

In 1874 the Turkish Government protested for the first time against foreign interference in the postal service, but without success. In 1895 foreign postmen were arrested but released upon the energetic representations of the missions. In 1901 another effort was made by the Porte to forcibly abolish foreign post-offices; foreign mail bags were seized by the police upon the arrival at Constantinople of the European trains, but the powers protested so vigorously that it is highly probable no such measures will ever again be resorted to.

There are five foreign post-offices in Smyrna, given as follows, according to the dates of their establishment: Austrian, Russian, French, British, and German. They all operate under practically equal regulations, which are those of the postal union. The following is a list of the foreign post-offices in Turkey:

AUSTRIAN.—Constantinople (3 offices), La Canee, Rhodes, Trebizond, Dardanelles, Gallipoli, Samsoun, Tchesme, Janina, Mytilene, Chio, Ineboli, Durazzo, Prevesa, Vallona, Caiffa, Candia, Cavalla, Rethymo, Porto-Lagos, Santi-Quaranti, Kerassund, Dedeagatch, Vathy, San Giovanni di Medua, Scutari of Albania; consular post-offices at Jaffa, Jerusalem, and Adrianople.

RUSSIAN.—Constantinople, Ineboli, Sinope, Samsoun, Tireboli, Ordou, Kerassund, Trebizond, Rizeh, Dardanelles, Smyrna, Chio, Alexandretta, Lattaquieh, Tripoli (Syria), Beirut, Jaffa, Mount Athos.

FRENCH.—Constantinople (3 offices), Salonica (2 offices), Smyrna, Beirut, La Canee, Jerusalem, Alexandretta, Cavalla, Dardanelles, Jaffa, Kerassund, Lattaquieh, Mersina, Porto-Lagos, Samsoun, Trebizond, Tripoli (Syria), Tripoli (Africa), Candia, La Canee, Rethymo, Rhodes, Vathy.

BRITISH.—Constantinople, Smyrna, Beirut, [illegible] Bagdad, Bassorah, Fao.

GERMAN.—Constantinople, Beirut, Jaffa, J[illegible]

Foreign post-offices in Tur[illegible] dir[illegible]; infl[illegible] on the commerce of their respecti[illegible] [illegible] T [illegible] of mails, the prompt delivery of pri[illegible] posts is subjected to censorship, [illegible] [illegible] smission of samples, all tend to

AMERICAN PARCELS-POST SYSTEM.

GREATLY NEEDED TO FACILITATE BUSINESS WITH THE LEVANT.

Consul-General G. Bie Ravndal, of Beirut, has previously called attention to the desirability of a parcels-post convention between Turkey and the United States. He now adds:

Merchants in the East do not buy from catalogues, for which reason commercial samples and the facilities for obtaining them are matters of paramount importance. At the present time the cheapest and quickest way of obtaining samples from the United States is by express to Bremen, and from there by mail to Beirut. Even at best, the proceeding is slow and expensive, requiring, of course, the intervention of an agent in Europe. In this respect the United States is placed at a distinct and vital disadvantage as compared with other nations interested in the markets of the Levant and the near East. Not only do we offer no adequate facilities for getting samples from the United States, but we send no commercial travelers to these parts.

In this way American exporters, furthermore, forfeit considerable business in mail orders. On this score, the following is quoted from a letter recently received from the treasurer of the American University in this city:

> There are many articles and lines of goods which we now purchase in England and Germany which could be obtained from the United States were the parcels-post system adopted by the American Government. At present it is extremely difficult to get small orders of goods, such as hardware and novelties, articles of wearing apparel, jewelry, etc. The express companies' system is slow and expensive. I am sure it would, in the aggregate, increase certain lines of American trade enormously, and would add greatly to the convenience of American institutions and residents abroad.

KOREA.

OPERATIONS OF THE POSTAL AND TELEGRAPH SYSTEMS.

Consul-General Thomas Sammons, of Seoul, submits the following report on the operation of the telegraph and post-office system in Korea:

The telegraph and post-office business of Korea is increasing, although the number of telegrams sent abroad, not including those to Manchuria, shows a decrease following the abnormal activity during the period immediately after the war. The telegraph lines aggregate 6,772 miles. American telegraph instruments are not generally used.

During the fiscal year of 1906–7 the stamp receipts of post-offices amounted to $32,840, and post and telegraph receipts to $518,400. The ordinary mail matter dispatched during the year reached a total of 24,584,700 pieces, of which 3,827,837 were sent by Koreans and 20,756,863 by Japanese and other foreigners. The pieces of mail delivered numbered 30,356,346, of which 3,533,474 were addressed to Koreans and 26,822,872 to Japanese and other foreigners. The postal parcels dispatched amounted to 141,394, of which 6,300 were sent by Koreans and 135,094 by Japanese and other nationalities; those delivered amounted to 342,208, of which 8,880 were for Koreans and 333,328 for Japanese and other nationalities.

The post-offices throughout the country numbered 51. In addition to these offices there were 25 post and telegraph agencies, 117 post agencies, and 50 telegraph agencies, with a large number of various establishments on a smaller scale calculated to facilitate communication.

UNITED KINGDOM.

SALARIES OF POSTAL EMPLOYEES IN NOTTINGHAM.

In the readjustment of British postal salaries for the fiscal year beginning April 1 Consul Frank W. Mahin advises that Nottingham (population, 255,000) is rated as follows: Postmaster, $3,650; assistant postmaster, may be paid from $1,752 to $2,186; two superintendents, from $1,411 to $1,703 each; nine assistants, from $925 to $1,363 each; twenty overseers, $779 to $876 each; inspector in charge, $925 to $1,168; inspector of mail carriers, $754 to $900; five assistants, $584 to $730. All the preceding are annual salaries, weekly wages being as follows: 110 sorting clerks and telegraphists, from $7.50 to $14 each; 280 mail carriers, not exceeding $7.50 each; 20 rural carriers, not exceeding $5.11 each. In the smaller cities of the Nottingham district postal employees of the same class receive slightly lower wages than in Nottingham.

ALCOHOLIC BEVERAGES.

ITALY.

WINE YIELD LAST YEAR COMPARED WITH THE LEADING COUNTRIES.

Consul James E. Dunning, of Milan, in a statement dated April 7, 1908, gives out the figures on the world's wine crop for last year as compiled by the Italian trade, thus:

Country.	Gallons.	Country.	Gallons.
United States	40,000,000	Corsica	6,654,800
Italy	1,495,126,400	Algeria	227,072,400
France	1,744,255,207	Tunis	7,920,000
Germany	50,160,000	Azores, Canaries, and Madeira	3,960,000
Austria	92,400,000	Luxemburg	2,772,000
Hungary	81,400,000	Turkey[a]	39,600,000
Spain	464,640,000	Greece	32,000,000
Portugal	118,800,000	Bulgaria	50,000,000
Switzerland	23,760,000	Servia	10,000,000
Russia	68,640,000	Roumania	68,740,000
Mexico	500,000	Persia	450,000
Argentina	35,000,000	Peru	2,400,000
Chile	55,000,000	Uruguay	2,300,000
Brazil	8,000,000	Australia	7,000,000
Bolivia	650,000		
Cape Colony	5,000,000	Total	4,744,200,807

[a] Including Cyprus.

The Italian crop for 1906 was 786,288,880 gallons.

GERMANY.

ACTUAL CONSUMPTION OF BEER PER CAPITA SMALLER THAN STATED.

In transmitting the following table showing the per capita consumption of beer in the several countries, as given in German official

publications, Consul William J. Pike, of Kehl, reports that the real consumption of beer in Germany is less than that stated, as the beer kept in store is included, and large breweries are keeping more beer in store than usual, on account of the decreased consumption:

Countries.	Per capita consumption.	Countries.	Per capita consumption.
	Gallons.		*Gallons.*
Belgium	63.29	United States	16.07
United Kingdom	35.64	Sweden	14.94
Germany	28.58	Austria-Hungary	11.88
Denmark	24.95	France	5.81
Switzerland	16.37		

BRITISH SOUTH AFRICA.

DECREASED ALE AND BEER IMPORTS INTO CAPE COLONY LAST YEAR.

Consul R. B. Mosher reports from Port Elizabeth that the imports of ale and beer into Cape Colony for the calendar year 1907 amounted to £31,000 ($150,861), as against £71,000 ($345,521) for 1906, a reduction of 56 per cent, due chiefly to the increased activity of the local brewers and the general movement for the further use of colonial articles. Of the ale, beer, and stout imported about 45 per cent comes from Germany, 40 per cent from the United Kingdom, and practically none from the United States. The duty is 48 cents per gallon, with a rebate of 3 cents per gallon on beers from the United Kingdom. [Dealers at Port Elizabeth who might handle American beer are named by the consul, and the list is filed with the Bureau of Manufactures.]

THE AFRICAN ELAND.

CAN BE DOMESTICATED AND TRAINED TO SERVE USEFUL PURPOSES.

The following information concerning the eland or Cape elk and the experiments proposed for its domestication is furnished by Edwin S. Cunningham, of Durban, Natal:

The eland, one of the largest species of antelopes, is indigenous to South Africa, and its flesh is considered to be the best of all venisons. It is fast disappearing from the settled districts, and any attempt to preserve this noble animal, either by domesticating or by placing it upon reserves, will be gladly welcomed by all lovers of animals. It is believed that as a domestic animal it can be raised at a profit, as it can be trained to serve a useful purpose. The director of experiment stations for Natal writes as follows on this subject:

An important natural asset, hitherto little appreciated and yet to be exploited, undoubtedly exists in the wild fauna of South Africa, and a far-reaching movement for the establishment of sanctuaries, or game reserves, in suitable localities throughout the continent has had foundation not only in sentiment, but also in a recognition of the potential utility of many classes of game now threatened with extinction. The prevalence of devastating stock diseases lends additional importance to the partial or complete immunity enjoyed by indigenous forms, and has led veterinarians and stock breeders to seek therein a means of obviating some portion of the resulting losses among domestic animals. When the mule has failed to show any marked degree of natural resistance to horse sickness, the zebroid, or cross between horse and zebra, is destined to *play an important* part in the Tropics.

In the eland again, the heaviest and most powerful of the African buck, is found a second type lending itself to domestication, and offering not only the advantage of virtual immunity from the commoner stock diseases, but also good beefing and working qualities. Little difficulty is experienced in the capture of this beast in open country, and it has been proved to thrive in captivity, rapidly becoming docile and tractable.

In the M'Chekwe district of Mashonaland two eland spans were for some time to be seen drawing wagons in the steadiest fashion, and healthy calves were born in captivity. The purchase of all available animals by a Berlin firm of live-stock dealers postponed for a time the completion of a most interesting experiment; but the eland will undoubtedly become an element in the farming system of the Colony.

The rapid multiplication of the buck under the partial protection afforded in the Giant's Castle Game Reserve, and the need for limiting the size of the herd, affords an opportunity for the conduct of a similar experiment in Natal, and steps are being taken to secure and train a limited number of animals during the coming winter. It will further be possible to definitely determine the degree of immunity enjoyed from, or resistance offered to, the various cattle diseases, with the ultimate object of their utilization in the work of preventive inoculation. It need hardly be added that the flesh of the eland has always been regarded as the best game meat in South Africa, that of the old males being loaded with fat, while the hide is much valued for leather.

HIGHWAYS IN GREAT BRITAIN.

INCREASING COST OF MAINTENANCE AND HOW TO MEET IT.

Consul Maxwell Blake, of Dunfermline, reports as follows concerning the new problems which confront municipalities and county councils throughout Great Britain, where the expenditure for road construction and maintenance is increasing at an alarming rate:

Traction engines, but more especially the various types of motor cars, are held to be largely responsible for the increased cost of road maintenance, against which the taxpayers are loudly protesting. Various ways of relieving the situation are suggested. The Motor-Car Union requests the Government to set aside in a general fund all money collected from the taxation of motor cars, out of which grants can be made to local authorities toward meeting the increased cost of construction and maintenance wherever the evidence justifies the conclusions that the damage complained of was the result of motor-car traffic. Others suggest that a graduated toll, according to distance traveled, be collected from motor cars, and still others advocate direct grants by the Government.

THE TAR MACADAM ROAD.

The very satisfactory means of obviating the dust nuisance on motor roads used for the past few years was a surface spray of tar, but as this costs about $150 to $250 per mile of road sprayed, and at best is but a temporary palliative treatment rather than a permanent or preserving one, it is being given up and an effort is being made to substitute tar macadam instead.

Tar macadam, it is claimed by some, is destined to solve the entire problem of road construction, and its practical results to date go a long way toward justifying this prophecy. For the best results of this method a coarse or hard porous stone must be used, well baked to extract all moisture before mixing with the tar preparation. When mixed it is laid about 5 inches thick upon a well-prepared foundation, and when sufficiently rolled it gives a smooth surface, a compact

body resisting dampness, frost, and hard wear, and as it does not require so much camber to shed water it is consequently a better road to travel over.

The cost of tar macadam, applied to a mile of road 20 feet wide, laid upon a rock bottom works out at about $7,250. Such a piece of roadway should last, I am told, for at least twenty years, at an average cost of $55 per mile per annum for maintenance. As a comparison with the cost of ordinary macadam it is unfortunately high, but it is said that in spite of this great difference in cost the use of the tar macadam works out the more economical of the two. The tar macadam costs about 55 cents per square yard.

NEW USE FOR SILICIUM.

GERMAN FOUNDRY INDUSTRY EFFECTS A CASTING IMPROVEMENT.

Vice-Consul W. Washington Brunswick, of Barmen, in stating that up to the present time no use has been found for the technical application of the silicic acid found in silicium, describes the development along these lines in Germany as follows:

Not taking into consideration the important carbons and metals found in combination, the silicium that is used in the glass and porcelain industries, the addition of silicium to bronzes for the augmentation of the hardness and firmness of the bronzes, is of the highest technical importance.

A recent use of silicium to obtain a pure copper cast and copper alligation was successful. The foundry trade well knows the difficulties of pure copper casting, which difficulty rests primarily on the fact that in melted copper, unavoidably, copper oxides are generated. As a reduction agent phosphor is generally used, but late experiments by English experts prove that additions with silicium copper (pure silicium can not be used) are preferable. They clean more effectively, harden and tighten better the copper structure and their alloys. The reason for this is that the unification of copper silicon has a higher heat effect than copper alone, and silicon impairs the oxidization.

Although ignition follows very easily when silicon copper is added to silicium there is, however, no danger of explosion. The addition is given with 1½ to 100 pounds copper. The copper thus treated is particularly recommended for electric conducting wire. It is more easily drawn to wire than copper combined with phosphor. The wires are better for telegraphic and telephonic purposes because they do not corrode, possess a maximum conductive power, and owing to minimum thickness are lighter.

Additional uses for silicium copper are obtained in the process of molding and casting tin and brass bronzes. Smaller additions add to the removal of gases and the avoidance of the formation of oxides. The addition follows best shortly before the smelting pot with the melted copper is withdrawn from the furnace. An average analysis shows the following percentages: Silicium, 10.21; copper, 89.30; iron, 0.34, and aluminium, 0.15.

WOOD PAVEMENTS IN ENGLAND.

LEGAL DECISION DECLARING CREOSOTE A DESTRUCTIVE AGENT.

In transmitting a report, of which the following abstract has been made, Consul J. Perry Worden, of Bristol, says that a recent decision in the courts in a suit for damages is regarded in England as a matter of considerable importance to car companies, and that it may be also of interest to those engaged in laying wood pavements in the United States:

A nurseryman in Bristol sued a tramway company to recover damages to his plants, alleged to have been caused by the fumes from creosote-prepared wooden blocks laid in 1906. The tramway company denied that the alleged damages were caused by the creosote-prepared blocks, which they said were prepared in the usual way, and furthermore the company claimed they were bound in pursuance of the statutory obligations of a tramway company to maintain and repair the road along which the tram line passed, etc.

When the case came for trial in the court of Bristol the following questions were given to the jury to decide: (1) Was the injury to the plants caused by the wood paving? (2) Was it reasonably necessary for the defendants to repave the road in the way they did and at the time they did it? (3) Was it absolutely necessary for the defendants to repave the road as they did it and when they did it?

On the findings of the jury the recorder entered judgment for the plaintiff at £40 ($194.66), and this judgment was sustained by all the higher courts upon appeal.

EUROPEAN APPLE JUICE.

AMERICAN DRIED FRUIT NECESSARY FOR ITS MANUFACTURE.

A leading European manufacturer of a nonalcoholic beverage from sterilized pure apple juice has furnished Consul-General Hugh Pitcairn, of Hamburg, with the following information regarding the difficulty of securing American dried apples of uniform quality:

My experience has taught me that the difficult problem in connection with this industry, namely, to obtain in Europe a good, uniform product from American apples, often fails for the reason that the apple shipments vary too largely in regard to quality. If the apples are dried and pressed properly, an excellent beverage can be made therefrom. As it is impossible for the European manufacturer to buy apples direct from the producer, but is dependent upon the jobbers or commission merchants who buy up the goods in various places from various producers, the quality, while often good, is frequently very poor. Without payment in advance the European manufacturers can not obtain their supply, and must, therefore, rely entirely upon the American jobbers with whom they have to deal, and, I am sorry to say, the users of my patent in Europe complain very much about the quality of American shipments received by them. The jobbers, however, are not wholly to blame, for the reason that the drying of apples in the United States is usually done on small farms or other agricultural establishments devoted to the raising of apples, and by the most primitive process.

It would under no circumstances be advisable, as it would not be remunerative, to manufacture such beverages from fresh fruit.

It being impossible to purchase in Europe large quantities of cheap, uniform fruit, if a company could be formed in the United States which would buy and furnish the supply of dried apples to the European manufacturers, it would accomplish great good in this direction.

[The names of five European factories making the apple juice referred to are listed at the Bureau of Manufactures.]

NEW WALL COVERING.

DAMP-PROOF INVENTION TO BE USED IN INDIA.

Consul-General William H. Michael, writing from Calcutta, gives the following account of a damp-resisting wall covering:

Much complaint has always been made by occupants of houses in Calcutta on account of damp walls, especially in the rainy season of the year. To remedy this it is proposed to use a new kind of damp-proof paper, made of "raw copper," and varying in thickness from 0.0012 of an inch to 0.006. It is said to be capable of being worked into all sorts of patterns. It is claimed to be insect-proof and damp-proof, and can go six or seven years without being cleaned. It is used in the same way as wall paper. Ordinary wall paper is of little use in the damp climate of Calcutta, and the new invention holds out many inducements.

ADVICE TO TRAVELING SALESMEN.

SHOULD CALL UPON AMERICAN CONSULAR OFFICERS ABROAD.

George H. Murphy, consul-general at large, writes, as a result of his experience, that it would be directly in the interest of trade extension if American exporters would instruct their salesmen visiting foreign countries to make a practice of calling upon consular officers for information, suggestions, advice, and other reasonable and proper assistance. Oftentimes consuls can give valuable aid in that way, and such calls would probably be of advantage in nearly all cases to traveling salesmen. The attention of manufacturers and exporters who employ salesmen in foreign countries is invited to this suggestion of Mr. Murphy.

CREMATION IN GERMANY.

GROWING USE OF THE METHOD FOR DISPOSITION OF THE DEAD.

Consul Thomas H. Norton reports from Chemnitz that Germany has now fifteen crematories, in as many cities, all in active use. There seems to be a growing disposition to make use of this method of disposing of the dead, as the number of cremations in 1908 shows an increase of 40 per cent over those for the same period of 1907. The total number of cremations during the four months, January-April, 1908, was 1,441, against 1,028 for the same period last year.

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COMMERCE.

BRAZIL.

PREFERENTIAL IMPORTS.

TRADE STATISTICS BEARING ON AMERICAN GOODS GIVEN A CONCESSION.

Consul-General George E. Anderson reports from Rio de Janeiro that advance figures of detailed returns of the imports of Brazil in 1907 indicate that the import of goods of American origin, which are favored by a preferential tariff granted by the Government of Brazil in return for the purchase of so great a share of Brazil's coffee and rubber crop admitted free of duty in the United States, increased materially during that year over the imports in 1906. The consul-general's details follow:

The increase is notable only in the case of flour, so far as actual volume of trade is concerned. The increase in imports of flour was material in volume and in percentage. The detailed figures of the imports for 1907 as compared with those of 1906, for all countries and for the United States (windmills and refrigerators, though given a preference, not being specified in the returns), are as follows:

Articles.	All countries.		United States.	
	1906.	1907.	1906.	1907.
Paints, etc	$308,086	$334,474	$64,152	$72,749
Flour	8,612,903	9,508,861	1,562,012	1,937,806
Pianos	256,793	287,086	13,144	12,875
Condensed milk	563,902	703,712	12,524	22,041
Scales	82,256	97,996	27,544	31,065
Watches	224,898	310,918	25,806	42,205
Clocks	114,283	144,090	57,159	67,202
Manufactures of rubber	583,122	502,725	39,898	56,913
Typewriters	72,445	120,359	61,096	105,465
Total	10,818,688	12,010,221	1,863,635	2,351,321

These returns show that the United States sold in 1907 goods of the above classes to the amount of $487,686 more than it sold of the same goods in 1906, an increase of about 26.1 per cent; while Brazil in 1907 imported from all countries goods of such classes to the amount of $1,191,533 more than it imported in 1906, an increase of only a little over 11 per cent.

SHARE OF TOTAL IMPORTS.

On the basis of total imports of all kinds in Brazil last year amounting to 644,937,744 milreis (milreis=30 cents) and the total imports from the United States amounting to 82,309,398 milreis, the

tion of American imports in Brazil to all imports was about 12 per cent as compared with 11.46 per cent in 1907. The general rate of increase of all American imports in Brazil in 1907 as compared with 1906, a total of $24,692,819 in 1907 as compared with $18,310,260 in 1906, was about 34.8 per cent. The increase in the imports of preferential favored goods in 1907, therefore, was not up to the average increase in the imports of all American goods, though it evidently was much better than some.

The item of flour shows the most material increase of the items given, though not so in rate. In actual amount the increase in the imports of flour represents more than three-quarters of the whole. The nature of the effect of the preferential is indicated in the fact that while there has been this notable increase—an increase of about 24 per cent over the previous year's report—none of that increase has come in Rio de Janeiro or ports south of Maceio. In other words, the most populous portion of Brazil is still out of the reach of American flour. The preferential reduction simply acts as a reduction in freight rates which enables American shippers to reach ports with their products farther south than they would be able to reach without the preferential. The imported flour market is still dominated by Argentina millers. I do not see how it can be otherwise, for the Argentina millers, failing of a sufficient market elsewhere, must perforce place their product in Brazil as the nearest market. This is their practice and will probably continue as a matter of practical trade necessity.

PIANOS, MACHINERY, AND RUBBER GOODS.

There is a good market for American paint products in Brazil, and the fact that it is being cultivated now more than ever before is illustrated in the improved returns. There was a decrease in the imports of pianos from the United States. The piano makers of the United States still refuse to make pianos suitable for the Brazilian market, and so long as this is the case neither preferential tariff reductions nor anything else will enable them to secure the trade. The condensed milk trade has been aided by the tariff preferential. However, the returns of $22,041 in 1907 still are small compared with the $58,022 from the United States in 1905.

The increased imports of scales may have been due to ordinary conditions rather than to the preferential, and this also is true of imports of watches and clocks and typewriters, in each of these classes the increase in imports from the United States merely keeping pace with the increased imports generally. In typewriters the increase has resulted from the establishing of more satisfactory agency arrangements in behalf of American machines. The figures also represent a change in customs crediting, many American machines which formerly were accredited to Great Britain on the ground that they came from Great Britain, in spite of the fact that they were of American make, being now credited to the country of their manufacture.

In imports of manufactures of rubber, however, it should be noted that there was an increase of about 43 per cent in imports from the United States, while there was a decrease in the imports of such manufactures from all countries. Dealers here state that this turn in the trade has been due to reduced prices in the United States following the lower price of raw rubber and a lessened demand for rubber products in the American markets.

Shipments of glycerin and other animal products show a slight increase. The total exports from the port in 1907 were $38,750,000, as compared with $36,358,448 in 1906, the port furnishing substantially 15 per cent of the exports of all Brazil. The declared exports from Rio de Janeiro to the United States during the past two years are grouped as follows:

Articles.	1906.	1907.	Articles.	1906.	1907.
Coffee	$18,413,446	$12,728,762	Rubber	$25,375	$242
Precious stones	8,903	42,513	Miscellaneous	1,872	4,792
Manganese ore	311,142	532,040			
Plants and seeds	6,802	3,018	Total	18,767,540	13,311,367

DECLINE IN SHIPMENTS OF COFFEE AND RUBBER.

While the exports of coffee from this portion of Brazil, as well as from all Brazil, in 1907 were something like 50 per cent less than were those for 1906, the latter rather than the former year's figures come nearer the normal.

One notable fact to be considered is that the low price of rubber generally has shut off the shipments of mangabeira and maniçoba rubber from this portion of Brazil. The increase in the shipments of manganese ore are in line with predictions of what would follow the steadying of exchange. The shipments of precious stones indicate in a measure the development of the diamond mines of northern Minas, although the figures given are not to be taken as measuring the output of the district or any considerable portion of it. There are still considerable quantities of stones handled out of the purview of any customs or other figures.

The general feeling in export circles in Rio de Janeiro at the close of 1907 was not one of satisfaction. The falling off of coffee shipments was due not only to the smaller crop, as indicated, but to the fact that New York consuming dealers had good stocks of the berry on hand and were unwilling to buy at even the low prices then obtaining. It will be well into the present year, if not longer, before exports from Brazil will take their ordinary course.

CONSUMPTION OF MATCHES.

UNIVERSAL HABIT OF SMOKING CREATES A BIG DEMAND.

Consul-General Anderson, in furnishing the following statistics on the Brazilian match trade, calls attention to possibilities for the sale of American smoking specialties:

The number of boxes of matches produced in the Federal District in 1907 was 202,041,400, of which 189,559,000 were wood and 12,482,400 wax matches. The stamp revenue was $1,218,384, or about six-tenths of a cent per box. The output is used in the district itself. The match tax alone amounts to a little over $1.50 for each man, woman, and child.

The explanation for this exceedingly large consumption of matches is in the fact that almost every male inhabitant of the district is a smoker, and most of them smoke cigarettes. "Camarades" on the mule-pack trains of the interior and the inhabitants of the most inaccessible portions of the country, even when deprived of everything in the way of civilized supplies, will almost invariably be supplied with matches for smoking.

FRENCH GUIANA.

IMPORTS OF SOUTH AMERICAN COLONY AND SHARE OF UNITED STATES.

Consular Clerk Milton B. Kirk, of Paris, has compiled from French official statistics just published the following commercial review of the colony of French Guiana:

The population of French Guiana, according to the census of 1901, was 32,908, of whom 2,059 were gold hunters in the woods. Direct and rapid means of communication with the interior are lacking; there being no railroads except a few miles in the penal settlement, which contains 6,290 persons. Postal communication is maintained twice a week with the principal towns. The telegraph is not extensive, centering mainly about Cayenne, the capital, which also has recently installed a telephone system. The ports of Cayenne and Saint-Laurent du Maroni are in direct communication with the seaport towns by means of small ships of 50 tons and less. These boats ply along the coast all the year round.

The low country stretching from the seacoast to the interior highlands is very sparsely cultivated, because periodical inundations of both salt and fresh water necessitates an expensive system of drainage. Although the soil of the interior plateau is much inferior, nearly all the products are cultivated there. All tropical flora and fauna are found in Guiana, and many European plants have been successfully acclimatized.

INTEREST IN MINING—TOTAL TRADE.

On account of the rush of gold hunters, agriculture has been almost abandoned, and many grains and fruits which were once grown in this colony are now imported. Little timber has been exploited. Concessions from 100 to 400 hectares (247 to 988 acres) are given for a period from two to five years, and are renewable almost indefinitely. A decree of March, 1881, regulates the prospecting and exploitation of the gold fields, and may be obtained at the colonial offices in Paris. Permits are granted to any one without regard to nationality. Gold, which was first discovered near the headwaters of the River Appronague, is to-day being exploited in the beds of all the principal rivers from the Oyapock to the Maroni.

Silver, copper, lead, iron, and mercury are found nearly everywhere. Topaz, chalcedony, garnets, amethysts, and jade have also been discovered. Expeditions are now being sent forth into the interior highlands prospecting for diamonds, which are said to exist.

The total commerce of French Guiana in 1906 reached the sum of $4,834,177. The imports were $2,807,910—an increase of $600,111 over 1905. The exports were $2,026,267—an increase of $107,946. France furnished 70.8 per cent of the imports, and took 80.8 per cent of the exports; French colonies, 9 and 0.2 per cent, respectively, and other countries 20.2 and 19 per cent, respectively.

DIVISION OF IMPORTS.

The principal imports were in value: Live animals, $226,961; food products (animal), $260,918; flour, $337,752; provisions, $206,775; wine, beer, spirits, etc., $448,213; textiles, $373,139, and metal work, $220,881.

France shipped to the colony during 1906 $253,210 worth of animal products, $764,010 of vegetable products, $94,530 of mineral

products, and $959,430 of manufactured products. British colonies furnished of these four groups $272,750, $163,730, $4,590, and $15,140 worth, respectively.

The principal imports from the United States in 1906 were as follows:

Articles.	Value.	Articles.	Value.
Mules	$926	Oleaginous fruits and grains	$979
Salt pork, ham, and bacon	14,376	Leaf tobacco	4,213
Meats, beef and other	23,230	Linseed and cotton-seed oils	10,895
Tinned meats	2,714	Building timber, pine and spruce	8,479
Tallow	15,898	Cement	446
Cheese	14,964	Illuminating oils	16,493
Dried, salted, and smoked fish	3,742	Soda biscuits, crackers, etc	2,594
Tinned fish	1,223	Textiles	64
Tinned lobster	1,583	Sewing machines	641
Wheaten flour	23,594	Machines and parts of	1,089
Oats	643	Kitchen utensils	2,946
Corn	3,620	Planed and polished woods	8,529
Dried vegetables	3,708		

Of the total imports of live animals only $926 out of $226,961 were imported from the United States. This consisted mainly of beef, the British colonies furnishing all but about $21,000 worth and sending 3,867 cattle, 102 calves, 313 sheep, 1,582 pounds of pork, and nearly 12,000 head of poultry to this colony. Of animal products (packing-house products, hides, etc.), the United States sent about one-fourth and France one-half. From the United States was imported about $6,500 of fish of all sorts. Only about one-tenth of the flour consumed was American, France and the British colonies doing the best trade.

The United States shipped over half the linseed and cotton-seed oil, no olive oil or resins, but nearly all the wood for construction purposes. Out of a total of nearly $450,000, consisting of wine, beer, and alcoholic spirits, the United States sent only $175 worth, France taking nearly all the trade, the British colonies sending about $40,000 worth of beer.

From the United States came all but about $4,000 of the illuminating oil; $20 worth of bar iron out of a total of $61,000 of all kinds of metals; $13 worth of chemicals out of a total of $19,000; and $32 worth of paint and varnish out of a total of $7,000. From France was imported the majority of soap, perfume, candles, etc.

There was imported from the United States $50 worth of earthenware out of a total of $15,000, and $500 worth of glassware, mirrors, window glass, etc., out of $22,000.

THE TEXTILE TRADE.

There was imported from the United States $35 worth of cotton thread, $1,081 of cordage, and $206 worth of string out of a total of $15,000, France sending the greater part. The total imports of textiles were divided as follows:

Hemp and flax	$35,637	Cotton—Continued.	
Jute	3,119	Ribbon mixed with silk, etc	$4,923
Cotton:		Wool:	
Raw	15,158	Carpets	4,150
Bleached	43,128	Pieces	22,371
Colored	26,823	Hosiery, caps, underwear	8,694
Made with colored threads	22,994	Silk:	
Printed	35,962	Ribbons	2,158
Glazed	22,568	Braid	4,148
Hosiery, caps, underwear	18,920	Pieces	10,741
Dress goods	35,255	Hosiery, caps, underwear	7,713
Lace	10,101	Dress goods	7,943
Lamp wicks	1,229	Embroidery	2,990
Fish nets	3,150	Clothes	20,077
Oilcloth	3,208		

OTHER IMPORTS—GOLD EXPORTS PREDOMINATE.

Of $75,275 leather goods imported $260 was from the United States, and of $220,881 works in metals, including sewing machines, machinery, tools, etc., $6,771 worth. The United States does not enter into the importations of arms, powder, or ammunition, but shipped $269 worth of furniture out of $14,000 worth imported, though taking a more active part in wooden ware, shipping $9,910 out of $16,588 imported.

Out of $3,000 worth of musical instruments and $13,968 worth of straw goods imported, the United States did nothing, but sold $251 worth of carriages against a total importation of $3,670.

The chief export of this colony is gold dust, valued at $1,867,285; $27,799 of vegetable oils were exported, and some trade, valued at about $35,000, was done in the reexports of French and other merchandise to the neighboring States. The United States received $62 worth of fish, $18 worth of brandy, and $4 worth of liquors.

It can be easily seen by the statistics that the United States does not do the business that might be done, and there ought to be a great field for American goods on account of the colony's proximity with our country and Porto Rico.

CHILE.

LARGE INCREASE IN IMPORTS, BUT A DECREASE IN EXPORTS.

Consul Alfred A. Winslow, of Valparaiso, transmits a printed copy of the Chilean publication giving a résumé of the imports and exports of that country for the years 1906 and 1907, from which the following statements have been compiled:

The foreign trade of Chile was as follows in 1906 and 1907:

Description.	1906.	1907.	Decrease and increase.
Imports	$86,759,639	$107,193,877	+$20,434,2[illegible]8
Exports	105,711,811	102,229,456	− 3,482,3[illegible]5
Total trade	192,471,450	209,423,333	+ 16,951,883

In the following tables the classifications and arrangement given in the Chilean official publication have been retained:

Description.	1906.	1907.
IMPORTS.		
Animals and animal products:		
Live animals	$2,076,302	$3,006,657
Alimentary products.	1,155,626	1,826,350
Industrial products	1,222,782	1,835,711
Manufactures	476,629	708,093
All other articles	514,214	398,582
Total	5,445,553	7,775,393
Vegetable products:		
Fruits, grain, rice, coffee, tea, etc	4,615,388	2,964,581
Alimentary products, olive oil, sugar, flour, etc	4,206,140	4,114,786
Articles for industries (cork, gums, rosin, tar, etc.)	623,675	742,614
IMPORTS—continued.		
Vegetable products—Continued.		
Manufactures	$316,658	$437,770
Wood	1,787,695	2,630,663
Tobacco, and manufactures of	163,410	183,157
All other articles	858,143	673,776
Total	12,571,109	11,747,556
Mineral products:		
Precious metals and stones, manufactures, specie, etc	2,186,761	2,358,253
Iron and steel, and their manufactures	10,029,525	12,797,033
Other metals than iron and steel	[illegible]	[illegible]

Description.	1906.	1907.
IMPORTS—continued.		
Mineral products—Con.		
Stones and earths	$2,909,858	$4,023,015
All other articles	757,225	637,175
Total	17,153,600	21,366,212
Textile materials and manufactures:		
Straw, palm, cane, and jute	2,984,012	2,654,285
Cotton manufactures	10,046,815	13,262,180
Linen manufactures	275,518	360,910
Woolen goods	4,935,300	6,833,050
Silk manufactures	1,241,973	1,240,131
All other articles	748,634	612,617
Total	2,232,252	24,963,173
Industrial oils, combustibles, etc.:		
Oils	655,954	869,636
Bitumen	86,683	116,171
Combustibles (coal and petroleum chiefly)	9,338,525	13,327,746
Paints and colors	441,534	606,197
All other articles	69,784	153,777
Total	10,592,480	15,073,527
Paper and paper manufactures	1,996,606	2,553,707
Liquors, mineral waters, etc	1,456,644	2,345,207
Perfumery, medicines, and chemical products:		
Perfumery	186,372	280,620
Medicines and other pharmaceutical products	717,513	871,069
Chemical products	536,537	842,613
All other articles	141,809	153,075
Total	1,582,231	2,147,377
Machines, instruments, tools, and apparatus:		
Scientific, musical, arts, etc	1,050,570	1,049,913
Mining machines and apparatus	4,729,941	3,651,192
IMPORTS—continued.		
Machines, instruments, tools, and apparatus—Continued.		
Agricultural	$1,402,763	$1,556,885
Industrial (manufacturing, etc.)	4,333,443	6,730,964
Locomotion (locomotives and rolling stock chiefly)	2,770,984	4,113,160
All other articles	358,910	367,135
Total	14,646,611	17,469,249
Arms, explosives, and munitions	589,793	1,236,192
Miscellaneous articles	492,804	516,284
RESUMÉ.		
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Arms, explosives, and munitions	589,793	1,236,192
Miscellaneous articles	492,804	516,284
Total imports	86,759,683	107,193,877
EXPORTS.		
Animal products	7,278,337	5,959,670
Vegetable products	3,429,212	4,859,038
Mineral products	92,243,658	88,341,089
Wines and liquors	72,039	47,223
All other articles	2,688,565	3,022,486
Total exports	105,711,811	102,229,456

PARAGUAY.

MARKET FOR PAINTS, OILS, AND VARNISHES—KALSOMINE IS POPULAR.

Consul Edward J. Norton makes the following report from Asuncion on the paint, oil, and varnish trade of Paraguay:

Of all the hundreds of houses, residences, and stores in Asuncion, there is not one, to my knowledge, built of wood. In this respect Asuncion is not unlike the majority of cities in Latin America, although in the coast towns of central and northern South America wooden houses are numerous. Rough, heavy native brick, irregular in size and shape, is the material used for construction purposes, although concrete is slowly making headway. Rough-hewn timbers with a layer of split palms, which are covered with curved tiling, form the roofs. The floors are of brick or tile.

The brick walls of all buildings are covered with a rough plaster called "revoque," and this is painted. Oil paints are not in demand

to any extent except for doors, sash, window bars, etc., as the exterior painting and the interior decoration of houses and stores is generally of kalsomine. Interior walls are kalsomined and finished by stencil work in fancy designs.

The ceilings in most houses are composed of painted wooden frames on which a cheap cotton drill is tacked, and kalsomined and stenciled to harmonize with the walls. There is a steady demand for kalsomine or cold-water paint. For this market preparations of this kind should be available in all colors, as the streets of Asuncion are bright with residences painted in pinks, blues, and greens, and the store fronts are of different shades of light colors. The most popular-sized packages of cold-water paints would be of 5-pound packages and 25 and 50 pound kegs.

Limited stocks of ready-mixed paints in quart, 2-quart, gallon, and 5-gallon tins are carried by local dealers. These goods come principally from England and Germany. Some American enamel paints and varnish stains, varnishes, fillers, and driers are also handled by local merchants, and are recommended as the best.

The sales of American paints could be increased, as the American varnishes, enamels, etc., have the best reputation in this market. A limited line of coach and carriage colors and carriage varnishes would find a market here, as well as special paints for steamboats. Asuncion is a central point for a number of river lines, and considerable repair and refitting work is carried on. [The consul forwards a list of the importers of paints in Paraguay.]

NICARAGUA.

DECREE GOVERNING THE IMPORT AND SALE OF PATENT MEDICINES.

The following information concerning a recent decree regulating the conditions under which patent medicines can be imported into and offered for sale in Nicaragua is furnished by Consul José de Olivares, of Managua:

A special executive order has been issued, entitled "A decree regulating patent medicines."

The decree is, however, more comprehensive than its title and comparative briefness would imply, and is not only calculated to remedy the existing conditions in connection with the importation, preparation, and dispensing of patent medicines, but aims to reform deficiencies in the prescription departments of many drug stores throughout the country.

A considerable number of the proprietors of drug stores are leading physicians, but the business transacted by a large majority of them is too limited to warrant the employment of foreign apothecaries, and there are no pharmaceutical schools in the country.

While the provisions of this law should tend to protect foreign patent medicines against adulteration, it is believed the requirement that all such remedies must be labeled with their formulas in full will prove an obstacle to their importation.

[A copy of the decree is filed for reference with the Bureau of Manufactures.]

FRANCE.

TRADE IN ACETONE.

IMPORTS AND EXPORTS—INDUSTRIAL USE OF THE CHEMICAL.

Responding to an American inquiry Consul-General Robert P. Skinner, of Marseille, gives the following information as to the French trade in acetone:

Acetone, like acetate of lime, is classified for dutiable purposes in France as "an undenominated chemical product other than such as have an alcohol base," and as such is taxed 5 per cent ad valorem. As this tariff is the same under maximum and minimum schedules, American exporters are under no disadvantage in this respect. If, however, American acetone should be exported to France via some other European country, it would have to support a surtax of 69 cents per 220 pounds. It is impossible to furnish exact figures as to imports and exports of this article which, in official statistical tables, is included among "undenominated chemical products, without alcohol base, and subject to an ad valorem duty." The figures relating to these articles supply some notion of the importance of the trade in acetone, and are as follows:

	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Imports	22,027	17,353	16,219
Exports	15,073	14,302	12,576

Buyers of large quantities of acetone, aside from the French Government, are few and seldom take up more than half a ton at a time. Its principal applications are in the manufacture of smokeless powder, the denaturation of alcohol, and the production of chloroform, iodoform, and celluloid. The price varies with the price of acetate of lime. In 1907 quotations ranged from $35.70 to $36.67 per 220 pounds, at 98 per cent of purity. This year one manufacturer quotes $33.77 and another $34.74—this, however, for 99 per cent acetone. These are delivered terms anywhere in France.

COMPETITION OF FORMIC ACID.

In a general way, the market for the entire list of pyroligneous products, which has been firm for two years, now seems considerably weaker, and the industry is menaced by the competition of formic acid, which tends to reduce the use of acetate of lime, and to that extent affects the price of the raw material from which acetone is produced and also by proposed changes in the method of denaturing alcohol.

One of the chief manufacturers of pyroligneous products writes me: "It is certain that the suppression of methyl alcohol as an alcohol denaturant would entrain the ruin of the mills for the carbonization of wood, as the product would drop at least 50 per cent in price." The same correspondent declares that while formic acid menaces acetic acid, and therefore acetate of lime, in the dyeing trade, "it is still in the experimental period." An equally important producer is of the opinion that formic acid must already be regarded as a formidable competitor. However, there will always remain a demand for *a certain quantity* of acetate of lime, "unless some one invents some *new means of synthesis.*"

Purchases of acetone for the French Government are made after advertising for bids, and for this purpose the bidders must be French citizens. [A Marseille commission agent who is prepared to go into this matter is named by the consul.]

ACETATE OF LIME.

SUPERSEDED IN MANY FRENCH INDUSTRIES BY FORMIC ACID.

In answer to another inquiry from the United States, Consul-General Skinner writes as follows relative to the decline in the imports into France of acetate of lime, and the reason therefor:

There are about 25 plants in France where wood is carbonized in retorts, with recuperation of acetates and methyl alcohol. This number might be increased, as there are numerous wooded areas where there are no plants, but the chief producers of French acetate of lime deem the creation of new establishments unlikely for the present at least; nor is it any more likely that existing plants will augment their production, for the reason that no market would be found in this country for the output.

Importations of acetate of lime have decreased to commercial zero, and the manufacturers thereof fear that before long they will be forced to seek a foreign market or reduce the scale of their operations. This situation is the consequence of the recent invention of a new material which, within two years, has become a severe competitor of acetic acid (which is derived from acetate of lime), and which has replaced it in many industries. This new product is formic acid, and is manufactured from coke.

It has come within the knowledge of French manufacturers of acetate of lime that important plants for its production have been established recently in Brazil, Japan, Australia, Chile, Canada, and Hungary, but unless their owners are prepared to find an outlet for their product at home, their prospects for commercial success would appear to be doubtful.

The second product of wood carbonization, methyl alcohol, is imported into France in fair quantities, for the purpose of denaturing ethyl alcohol, but this business, too, seems to be somewhat precarious, and should the proposed reduction by the State of the amount to be used be authorized it would tend to terminate importations, as the domestic production of methyl alcohol would be sufficient to cover the reduced requirements. On April 1, gray acetate of lime was quoted in this country at 47.50 francs per 100 kilos ($9.17 per 220 pounds). A list of the chief manufacturing concerns is forwarded. [List filed in the Bureau of Manufactures.]

DEMAND FOR RUBBER TIRES.

HIGH DUTIES PREVENT THE IMPORTATION OF AMERICAN MAKES.

The following information concerning the rubber tires in demand in France and why the American tire finds only an insignificant consumption in the Republic is furnished by Consul-General Skinner:

A very serious obstacle to the creation of a demand in Fra rubber tires of American manufacture is the application of

upon such tires of 90 francs per 100 kilos ($17.37 per 220 pounds), while tires from other countries are dutiable at the rate of only 70 francs per 100 kilos ($13.51 per 220 pounds). The consequence is that importations from the United States have been unimportant. It is impossible to furnish any reliable statistics regarding the trade, as rubber tires are comprised with a long list of other articles in rubber.

One well-known American house, appreciative of the difficulties of disposing of American tires in France, has passed over to a French firm its patent rights, with the result that, as in several other lines of industry, "American" solid rubber tires are being very extensively sold in this country, although there is nothing American about them except the type.

The general demand is said to be for a solid tire through which run two parallel steel wires. A pair of tires for wheels 39.37 inches in circumference commands from $24.30 to $35.90, according to the thickness of the round rubber, and flat tires for wheels of the same size run up to $96.50.

TARIFF DISCRIMINATIONS KEEP OUT AMERICAN TIRES.

Very few imported automobile tires are sold in this market for the same reasons as in the preceding case. Prices are steadily descending, in sympathy with the cost of raw rubber. It is said that $160,000 worth of these tires were sold last year in this city. The tires offered for sale are being improved annually, not in respect to the rubber portions, but as regards the canvas linings.

It is calculated that a smooth-surface tire should run between 5,000 and 6,000 kilometers (3,106 and 3,728 miles), while the anti-skidding tires are hardly good for more than 4,000 kilometers (2,485 miles) on French roads. It is comparatively seldom that one sees a general service automobile in cities without at least one nail-shod tire. There is quite a variety of these devices, some being nail-shod leather envelopes, others metal nails on the rubber envelopes, and still others rubber nails which are a part of the rubber envelope itself. Eventually the nail wears through the canvas linings, and then repairs are difficult. The use of chains woven about smooth tires, such as are seen in New York, would not be permitted here under any circumstances. As it is the nailed tires are doing incalculable damage to the roads.

Local dealers, not being manufacturers, do not know the specific gravity of the rubber employed. All the manufacturers claim to use nothing but Para rubber. The best dry African rubber, which comes from French Guinea, weighs 1,102.3 pounds per cubic meter (35.314 cubic feet).

[A list of the Marseille dealers with whom correspondence might be undertaken with a view to securing the sale of American tires is on file in the Bureau of Manufactures.]

MARKET FOR BARRELS.

POSSIBLE OPENING FOR THE SALE OF AMERICAN METALLIC ONES.

In reply to a communication from an American manufacturer of metal barrels, Consul-General Skinner writes as follows:

If American firms can produce a metal barrel at a cost of $1 there would be little doubt of finding a market in this country. The need

of barrels, both cheap cement barrels and oil containers, is very great in this city, and the high cost of substantial oak barrels for the oil trade has already created a considerable sale for large and strong metal cylinders. Although these cylinders cost from $4 upward, their indestructibility renders their use economical in certain cases. Upon this point the following is an expression of opinion from a leading oil manufacturing firm of this city:

Since 1903 we have used iron cylinders for deliveries of oil to local soap manufacturers. We realize a serious economy, as repairs are not necessary after every delivery, as in the case of wooden barrels. On the other hand, we deliver our edible oil in wooden barrels, because they are less likely to be broken in being loaded and unloaded from the cars, and because the majority of our buyers prefer the old-fashioned barrel.

Buyers here prefer the wooden barrel for fine oils, because it does not seem possible, so they think, to clean metal containers in a satisfactory manner, their repeated use being certain to give a rancid taste to the oil. [An illustration of the type of metal barrel used in Marseille is on file in the Bureau of Manufactures.]

BROOM-ROOT TRADE.

IMPORTS OF VARIOUS KINDS OF FIBERS AT THE PORT OF HAVRE.

In response to a St. Louis inquiry, Consul A. Gaulin writes from Havre as follows in regard to the French imports there of broom root and other fibers:

The article "raiz zacaton" is a fibrous root which grows in Mexico and other countries and is used for making brushes and brooms. It is commercially known as broom root, and is imported in large quantities at this port. The average wholesale price for the Mexican broom root in Havre during the year 1907 was 165 francs per 100 kilos ($31.85 per 220.46 pounds). The highest price was 195 francs ($37.64) and the lowest 150 francs ($28.95) per 100 kilos. These quotations were for good average quality broom root, clean, of the proper color, and flexible.

In the statistics kept and published by the French customs authorities the importations of broom root are not given separately. The article is classified with cocoanut, piassava, and iztle fibers. So important is the trade in broom root, however, that it is safe to say that the article forms the better part of the following figures, showing importations of broom root, cocoa, piassava, and iztle fibers at the port of Havre, France, in 1907:

Country of origin.	Pounds.	Country of origin.	Pounds.	Country of origin.	Pounds.
Germany	458,121	Egypt	14,300	Brazil	82,282
England	141,827	British India	1,360,805	Chile	12,080
Holland	11,411	China	300,960	French Africa	6,710
Belgium	134,950	United States	1,214,930	Cochin-China	4,540
Switzerland	1,053	Mexico	3,566,539		
Austria	1,108	Colombia	8,905	Total	7,321,421

There is no customs duty on broom root imported into France unless it is shipped via another European port or country, in which case the duty is 3.6 francs per 100 kilos ($0.69½ per 220.46 pounds). [A list of the principal importers of broom root and other fibers at Havre may be secured from the Bureau of Manufactures.]

GERMANY.

COOPERATIVE PURCHASING.

PROSPEROUS BUSINESS LAST YEAR OF A HAMBURG ASSOCIATION.

Consul-General Richard Guenther reports from Frankfort that the Grosseinkaufsgesellschaft deutscher Konsumvereine G. m. b. H. (Wholesale Purchasing Company for German Cooperative Associations, Limited) at Hamburg, Germany, has published its report on the company's business during 1907. The total sales amounted to $14,254,000, an increase of 28.7 per cent over the business of 1906. The capital of the concern (which only supplies its affiliated cooperative retail stores) is $239,000. The net profits from last year's dealings amounted to $120,000. The report states that the prospects for 1908 are not auspicious, because the present economic crisis will cause lack of employment for factory operatives and other working classes.

COMMERCIAL COURTS.

GOVERNMENT PETITIONED TO CREATE A SUPREME TRIBUNAL.

Consul-General Guenther further advises that the commercial court at Frankfort has petitioned the National House of Representatives of Germany and the chancellor of the Empire to create a commercial supreme court. In Prussia and some of the other States of the German confederation "Handelsgerichte" (commercial courts) for the trial of mercantile cases have existed for many years past. These courts are composed of a law judge and two lay judges who are selected from leading men in trade, manufacture, and finance.

SWITZERLAND.

LARGE DECREASE IN AMERICAN EXPORTS AND DEPRESSING EFFECTS.

Consul-General S. C. McFarland, of St. Gall, furnishes the following information, under date of May 11, concerning the industrial depression in Switzerland, which has resulted from the decreased exports to the United States:

The full effects of the financial disturbance in the United States upon Swiss industrial conditions and as affecting commercial relations with the United States are now apparent. A table comparing exports to the United States from the several consular districts for the first four months of the years 1907 and 1908 is attached. The figures for the Lucerne district show a slight increase, for the reason that in 1907 the Aarau agency was abolished, the figures from such date being included with those from Lucerne. Upon the whole a decrease of some 30 per cent is shown, but the most depressing effect has been upon St. Gall embroideries, showing in March (1908) a decrease of about 52 per cent and in April of about 54 per cent. During the months of January and February old business on hand kept the figures up somewhat, and it is generally believed in trade circles that the lowest point has now been touched and that gradual improvement will follow, although May business, so far, does not show a betterment.

The effects locally have been severe, working hours in the principal factories having been reduced by general agreement, while small concerns and house labor are practically idle. Many thousands of employees in the business proper have been thrown out of employment, and in the machinery and allied industries the results have been equally severe. Conditions are affecting rents and wages and creating an unusual situation in the general market for labor of all kinds, whether common, factory, or house.

The following statement shows the exports from Switzerland to the United States during the first four months of 1907 and 1908:

Declared at—	First four months of—		Declared at—	First four months of—	
	1907.	1908.		1907.	1908.
Basel	$1,076,830	$602,252	St. Gall	$5,608,159	$3,822,420
Berne	973,792	753,053	Zurich	1,336,085	1,060,175
Geneva	365,012	247,071			
Lucerne	186,631	209,940	Total	10,236,518	6,694,911

RUSSIA.

AMERICAN GOODS AT ODESSA SUPPLIED THROUGH GERMAN AGENTS.

Consul John H. Grout reports that at the present time, with the exception of agricultural machinery and implements sent out by firms in the United States to their stores and agents at Odessa, the bulk of American goods dealt in there reaches that part of Russia through the medium of German houses which act extensively as distributing agents. The result of this is that there are many houses at Odessa that carry in stock American goods, but in no case do they do so upon an extensive scale. The articles thus imported embrace various hand tools, scents, soaps, synthetic essences, dried fruits, and occasionally aluminum ware, canned or preserved goods, sewing machines, bicycles, motors, and automobiles, etc. [A list of the principal houses classified according to the articles dealt in may be secured from the Bureau of Manufactures.]

ICELAND.

COMMERCE AND AGRICULTURE ARE BECOMING MORE IMPORTANT.

Consul-General Frank R. Mowrer writes from Copenhagen that Iceland now has direct commerce with Denmark, Norway, England, Germany, France, and other countries. He describes the growth of the island's trade and its industries as follows:

Fishing has always been the chief industry, but more recently agriculture and the general trade have been increasing. The Icelandic fishing banks are considered among the richest in the world. Sailing craft and a few motor boats are employed in the fishing industry, and several steam trawlers are being tried as an experiment. Dried fish, chiefly herrings, are exported in large quantities. Whale fishing is extensively pursued by the Norwegians. Exports of fish are made to Denmark, England, Norway, Italy, and Spain. Ice-

landers carry on considerable sheep and horse breeding and export large quantities of mutton, particularly to Norway.

The foreign trade of the island for the comparative periods 1900 and 1905, the last year for which statistics are available, was as follows:

	Exports.		Imports.	
	1900.	1905.	1900.	1905.
Denmark	$712,223	$1,323,778	$1,637,556	$2,356,777
England	864,828	807,568	583,307	928,872
Norway	299,339	327,568	[a] 215,113	[a] 444,688
Spain	314,688	483,285		
Italy	153,903	235,427	33,968	146,800
Other countries	63,192	65,973		
Total	2,408,173	3,243,599	2,469,944	3,877,137

[a] Including Sweden.

Customs duties are collected on spirits, tobacco, coffee and coffee substitutes, sugar, sirup, tea, chocolate, and confectioneries. All other imports are duty free. In addition to fish the principal exports from Iceland to Denmark are mutton, wool, and skins. As in the case of imports from Denmark the greater part of the exports are received in Denmark for transshipment to other countries. As Icelandic commerce develops the port of Copenhagen will probably continue to be the distributing point, chiefly on account of its excellent free harbor and direct shipping facilities. England and Norway will have a part of this trade by reason of direct shipping connections.

PROGRESS OF THE COUNTRY.

Since the autumn of 1906 Iceland has had cable communication with Europe, the Great Northern Telegraph Company having twenty years' concession of the cable line between Iceland and the Shetland Islands. The inland telegraph lines belong to the Icelandic government, and, according to an act of the "Alting" or parliament, at its last session, these lines will be extended throughout the country. It is expected that they will be completed during the present year.

Iceland is one of the few countries without a public debt. In addition to several savings banks, there are the Islands Landsbank and the Islands Bank. Both are authorized to issue paper money to a certain amount; the former is owned and guaranteed by the Icelandic government, the latter is a stock company under the supervision of the State.

Up to the present time no mining has been done in Iceland. It is stated that investigations have shown that there are rich veins of gold in the vicinity of Reykjavik, the chief port. Last year an agricultural society in Copenhagen sent an engineer to Iceland to investigate the agricultural conditions. He has reported that by a system of irrigation 16,547 hectares, equal to 40,888 acres, can be placed under cultivation at a cost of about $1,600. At present only 17,019 hectares, equal to 42,054 acres, are under cultivation. It is claimed that the construction of roads, bridges, and especially railroads, would contribute much to the development of the country. There are important waterfalls that could be utilized for power purposes.

BRITISH INDIA.

LARGE INCREASE IN IMPORTS—SMALL INCREASE IN EXPORTS.

The following statistics, covering the foreign trade of British India for the three fiscal years ended March 31, 1908, and the inland trade for a shorter period, are furnished by Consul-General William H. Michael, of Calcutta.

The first table shows a steady increase in the value of imports of private merchandise, but the exports of Indian merchandise in the year ending March 31, 1908, were only $1,017,293 in excess of those of 1907, but were $50,659,914 in excess of those of 1906. The balance of trade in 1908—deducting the imports of private merchandise from the exports of Indian products—in favor of India was $145,427,617. This takes into account only the sea-borne trade, and refers only to private merchandise imported and Indian merchandise exported. The reexport of foreign merchandise is not taken into the account, nor are government stores or public and private treasure.

IMPORT STATISTICS.

The following statement shows the imports of private merchandise and government stores into British India, by provinces, during the three fiscal years:

Provinces.	1905–6.	1906–7.	1907–8.
Private merchandise:			
Bengal	$139,671,180	$140,019,848	$175,281,600
Eastern Bengal and Assam	(a)	1,263,329	1,447,271
Bombay	121,731,308	126,872,621	149,377,937
Sind	29,042,930	31,395,615	35,072,422
Madras	25,915,791	30,219,986	34,184,260
Burma	27,252,357	31,253,872	37,166,216
Total	343,613,566	361,025,271	432,529,706
Government stores	30,098,904	29,788,716	22,140,379
Total merchandise	373,712,470	390,813,987	454,670,085

The following statement shows the imports of treasure, private and government, during the three years:

Description.	1905–6.	1906–7.	1907–8.
Private treasure:			
Bengal	$20,182,812	$28,487,296	$24,850,223
Eastern Bengal and Assam	(a)	5,194	38,273
Bombay	46,787,400	56,941,344	77,962,500
Sind	1,214,012	1,913,821	2,927,818
Madras	1,269,897	2,695,127	2,943,712
Burma	283,507	606,165	639,312
Total	69,737,628	90,648,947	109,561,838
Government treasure	35,765,414	57,929,418	31,546,895
Total treasure	105,503,042	148,578,365	140,908,733
Grand total imports	479,215,512	539,392,352	595,578,818

[a] Entered with Bengal.

EXPORT STATISTICS.

The following statement shows the exports of Indian merchandise, the exports of foreign merchandise (reexports), and the exports of

treasure, by provinces, during the three fiscal years, 1905–6, 1906–7, and 1907–8:

Provinces.	1905–6.	1906–7.	1907–8.
Indian merchandise:			
Bengal	$234,749,546	$262,248,870	$232,826,045
Eastern Bengal and Assam	(a)	13,007,331	12,460,146
Bombay	152,455,171	142,545,312	152,993,374
Sind	36,907,456	51,085,327	58,574,511
Madras	51,518,796	57,565,632	62,058,697
Burma	51,666,440	50,487,568	59,044,550
Total	527,297,409	576,940,040	577,957,323
Foreign merchandise:			
Bengal	667,235	761,911	712,802
Eastern Bengal and Assam	(a)	183	250
Bombay	9,220,062	8,569,657	9,680,710
Sind	1,273,843	1,588,874	1,590,014
Madras	464,993	487,917	348,487
Burma	136,566	204,920	221,779
Total	11,762,699	11,613,462	12,554,042
Private treasure:			
Bengal	1,010,720	2,154,561	1,410,180
Bombay	19,465,303	16,030,157	14,678,024
Sind	327,007	270,135	516,924
Madras	553,541	476,562	1,513,206
Burma	142,583	11,943	35,758
Total	21,499,154	18,943,358	18,154,092
Government treasure	30,067,495	17,483	7,573
Total treasure	51,566,649	18,960,841	18,161,665
Grand total exports	578,864,058	595,900,881	596,118,988
Import duty collected, including salt	22,802,206	23,071,572	24,469,944
Export duty collected	3,837,085	3,510,639	3,411,219

a Entered with Bengal.

INLAND TRADE.

The import and export trade of India with her neighbors by land intercourse amounted, during the ten months ended January 31, 1908, to $41,666,660, an increase, as compared with the same ten months of 1906–7, of $2,733,330. The following statement shows this trade as distributed among the several States:

States.	Value.	States.	Value.
Nepal	$12,587,482	Sikkim	$460,965
Shan States	8,608,267	Ladakh	378,946
Afghanistan	7,081,000	Khelat	375,677
Dir, Swat, and Bajaur	3,939,354	Lus Beyla	267,591
Western China	2,267,590	Persia	230,993
Siam	1,866,665	All other States	1,035,729
Tibet	1,421,332		
Karenne	1,195,078	Total	41,666,660

The imports from Afghanistan amounted to $3,066,666, and consisted chiefly of wood, $1,086,777; ghee, $183,333; asafetida, $87,080; live stock, fruits and nuts, hides, opium, tobacco, sugar, etc. This must be considered remarkable when the wildness of the country and the lack of transportation facilities are taken into account.

The chief imports into India from Dir, Swat, and Bajaur are cattle, sheep and goats, ghee, grains, hides and skins, rice, mustard oil, mats, and timber. Borax was the chief article imported from Tibet. From Nepal the leading import was food-grains, chiefly rice, valued $4,175,000; ghee, $606,612; cattle, $539,000, and mustard and rape,

$440,000. Cereals were imported from the northern Shan State to the value of $309,000, and from both the Shan States strick-lac was imported to the value of $340,000.

The articles which constituted the imports from the other neighboring States were horses and cattle, sheep and goats, fruits, vegetables, nuts, rubber, drugs, opium, musk, goat and sheep skins, etc.

JAPAN.

REVIEW OF TRADE.

CONTINUED INCREASE IN IMPORTS AND DECREASE IN EXPORTS.

According to statistics contained in a newspaper clipping transmitted by Consul Hunter Sharp, of Kobe, the foreign trade of Japan for the first three months of 1908 was as follows:

Imports amounted to $69,476,231 and exports to $47,248,696. As compared with the first three months of 1907 this was an increase of $8,892,587 in the imports, but a decrease of $8,327,596 in the exports.

Raw cotton, the premier import of Japan, amounted to $18,385,074 for the first three months of 1908, which was about $150,000 less than the imports in 1907.

Outside of sugar, the imports of which show an increase of over $2,780,000 as compared with 1907, nearly the whole increase in imports occurred in articles "wholly manufactured," which, as of special interest to American manufacturers, is herewith reproduced:

Articles.	First three months of—	
	1907.	1908.
Shirtings and cotton prints	$397,986	$767,093
Cotton satins and umbrella cloths	645,550	918,966
Woolen cloths and serges	1,062,899	510,515
Mousseline de Laine	210,943	151,678
Papers	863,509	815,926
Oil kerosene	1,454,138	1,774,810
Iron nails	407,557	442,135
Locomotives and rolling stock	447,271	321,857
Steam vessels	264,403	757,870
Machinery	2,543,470	5,126,199
All other manufactures	5,586,414	5,650,236
Total	13,884,140	17,237,285

As compared with the first quarter of 1907, the principal exports showing decreases in 1908 were: Waste silk, camphor, raw silk ($1,400,000), cotton yarn ($1,390,000), copper ($2,950,000), straw plaits and chip braid, silk handkerchiefs, cotton tissues ($500,000), porcelain and earthenware, and matches. The exports showing increases in 1908 were: Rice, coal, mattings, etc.

MARKET FOR ANIMAL GALLSTONES.

USED AS A MEDICINE IN TREATMENT OF DISEASES OF CHILDREN.

Much interest having been aroused in the announcement that a good market existed for animal gallstones in Japan, Consul-General Henry B. Miller has secured the following statement from a Yokohama firm handling this product:

Gallstones are much in favor in this country as a medicine, it being commonly believed that *they possess* efficacious properties when used in the treatment of

diseases of children. They are classified on the market, to distinguish their origin, as oriental and occidental, the former being supposed to possess the greater virtue, and in consequence being of greater market value, though the latter also finds a ready sale at a slightly lower figure.

The value of the article varies according to its quality, size, and color. The larger the size and the brighter the color the greater the market value. Broken or cracked stones are worth only half as much as perfect ones. The minimum price for good marketable stock and the lowest valuation at which the custom-house officials here will pass the invoices is 40 yen, or $20 gold, per pound avoirdupois. From this figure the price runs up according to quality.

A small lot, if properly packed, can be sent by parcels post. To insure safe arrival each stone should be separately wrapped in cotton wool, and packed neither loosely nor tightly, but firmly, in a substantial wooden or tin box. A convenient-sized box, we find, runs about 2½×3×5 inches. Insurance ought to be effected at the time of shipment, and it will be well to register the package.

[The consul-general also forwards other names of Japanese dealers in drugs, chemicals, and gallstones, which may be obtained from the Bureau of Manufactures.]

MITSUI COMPANY REORGANIZATION.

CHANGES TO BE INAUGURATED IN EMPIRE'S BIG TRADING CONCERN.

Consul-General Miller also forwards from Yokohama the following Japanese newspaper account of the reorganization of the largest commercial house in that Kingdom:

It appears that the Mitsui Company has under consideration a scheme to reform the organization of its business, because of the large extension of its operations since the war. Since the late war came to an end the company has largely extended its business in Europe, America, Australia, and Asia, and for a time the annual amount of business done exceeded $100,000,000 gold. An undertaking handling such an enormous trade is seldom to be found. The branch offices and agencies scattered over the world number 76, and the firm's employees number 1,300. It is doubtless in consequence of the enormous size of its transactions that the financial depression has been felt so severely by the Mitsui Company—the reaction on the company during the period of depression having been as powerful as the extension of its business was great during the boom. The staff of the Shanghai branch exceeds 100, and owing to the prevailing depression many of the employees have now no business to occupy their time, the same consideration applying to many employees in the 67 offices abroad.

STRAITS SETTLEMENTS.

DECREASES SHOWN IN EXPORTS FOR FIRST QUARTER OF PRESENT YEAR.

Vice-Consul-General George E. Chamberlin, of Singapore, reports that the export trade of the Straits Settlements has experienced a decided depression during the first three months of the year 1908, as compared with the same period in 1907, the United States being the market which shows decreases in the greatest number of products. The vice-consul writes:

The only articles of export to the United States showing an increase are cloves and pearl tapioca. Shipments to England and the Continent of Europe were more satisfactory, but in a majority of instances show a marked decrease, the principal gains being in tin, copra, black pepper, and rattans.

Of the total exports to all countries, copra shows a gain of 6,769 tons; tin, 1,836; tapioca flour, 505; pearl sago, 244; para rubber, 186; *coffee, 179; and* cloves, 55 tons. Out of the 26 principal items of *export only the 7 mentioned* show an increase in shipments. The

following table shows the quality in tons (2,240 pounds) of exports of the principal products from the Straits Settlements, including the ports of Singapore and Penang, for the first three months of the years 1907 and 1908:

Article.	United States.		England.		Continent of Europe.		Total all countries.	
	1908.	1907.	1908.	1907.	1908.	1907.	1908.	1907.
Cloves	24	7	58	20	0	0	82	27
Coffee	76	80	0	0	103	20	179	100
Copra	0	0	703	627	15,177	8,384	15,880	9,011
Gambier	2,111	2,228	1,205	1,587	75	1,595	3,391	5,410
Cube	170	322	223	327	10	236	403	885
Gum:								
Benjamin	4	6	9	25	26	60	39	91
Copal	656	1,130	698	717	566	762	1,919	2,609
Dammar	12	43	11	29	13	92	36	164
Gutta-percha	20	85	67	404	240	361	327	850
Jeletong	287	3,151	150	84	166	73	603	3,308
Hides	25	140	238	578	66	84	329	802
Mace	14	19	0	3	0	0	14	22
Nutmegs	89	153	30	21	7	22	126	196
Pepper:								
Black	1,435	2,040	608	566	3,083	2,572	5,126	5,178
White	176	339	694	730	697	677	1,567	1,746
Rubber:								
Borneo	84	193	1	95	69	122	154	410
India	0	0	19	37	0	21	19	58
Para	0	0	275	125	46	10	321	135
Rattans	635	1,398	671	423	2,938	2,417	4,244	4,238
Sago:								
Flour	639	1,329	3,408	4,558	4,857	3,298	8,904	9,185
Pearl	84	118	530	205	520	567	1,134	890
Tapioca:								
Flake	58	620	1,500	1,492	771	911	2,329	3,023
Flour	29	47	631	154	71	25	731	226
Pearl	2,154	1,811	1,433	1,670	1,058	1,225	4,645	4,706
Tin	2,076	3,969	10,896	7,961	2,441	1,647	15,413	13,577
Pineapples --cases--	39,917	64,128	124,388	153,234	11,951	23,833	176,256	241,195

Taking values into consideration, the falling off is much greater, as in practically every instance prices are lower than one year ago, and where prices have advanced such advances have been very slight.

CURRENT MARKET QUOTATIONS—TRADE IN COPRA.

The following table, compiled from the Singapore market reports, shows the prevailing prices per picul (133⅓ pounds) of some of the principal exports at the end of the first quarter of the years 1907 and 1908:

Articles.	1907.	1908.	Articles.	1907.	1908.
Copra, sun dried, mixed, etc	$6.02 to $6.09	$3.60 to $3.86	Rubber—Continued.		
Cloves	19.28	20.41	Para, biscuit and sheet	$170.10	$90.72
Gambier	3.77	3.88 to 3.94	Sago:		
Cube, Nos. 1 and 2	6.18	5.81 to 6.94	Pearl, small	2.18	2.27
Jeletong	3.68	2.10 to 2.69	Flour, No. 1	1.70	1.70
Nutmegs:			Tapioca:		
110 per pound	15.02	12.23	Flake, small	5.16	4.19
80 per pound	24.10	13.32	Pearl—		
Pepper:			Small	5.39	3.40
Black	10.35	6.90	Medium	5.67	3.97
White, Sarawak	15.17	11.62	Bullet	6.38	4.39
Rubber:			Tin	52.73	40.82
Borneo—					
No. 1	70.30	58.97			
No. 2	54.72	37.42			
No. 3	42.24	30.05			

A local journal publishes the following concerning copra:

Singapore relies much upon its trade in copra, which is yearly expanding, the last twelve months indicating an advance of 50 per cent above the figures of the

year previous. This is owing possibly to the conference at Java and at Macassar appreciating to a greater extent than formerly the recognized rates of shippers instead of endeavoring to fix on figures below a general parity. It is asked, now that Singapore's success with this product is so marked, why local merchants do not import machinery to the islands for dessiccating cocoanuts which has been found to be such a large and profitable industry in Ceylon.

ASIATIC TURKEY.

OLD-FASHIONED SLEEPING ARRANGEMENTS—BEDSTEAD OPPORTUNITY.

In reply to inquiries regarding the bedstead trade in Bagdad Consul William C. Magelssen submits the following report:

Foreign bedsteads made their appearance here some eighty years ago, when British merchants first came to enter into the commerce of these regions. At that time the beds were not introduced to be sold, but were brought by these pioneer traders to add to their own comforts, of which Bagdad could, at that time, offer but few. The only bed then known to the natives was a queer rectangular structure, which continues to be largely used. It resembles a bird cage with the top off, and is very cheap—being built of the dry branches of the date palm. It has an opening on one side, into which a person seats himself, then throwing the feet up he turns until the body is properly inside. It is estimated that 20 per cent of Bagdad's population, which is believed to be 200,000 souls, employs this style of furniture. Other bedsteads much in vogue are coarsely built of wood; they are called "takets," and are used by the better class; they range in price from $1.50 to $7. It is interesting to report that a very large taket, sometimes measuring as much as 10 feet square, is found in the houses of some of the notable families of Bagdad. They are usually heirlooms, built of expensive lumber, and in most instances elaborately carved. These old-fashioned beds are no longer manufactured. Their values range from $25 to $50.

ROOF BED ROOMS—BEDSTEAD INTRODUCTION.

About 60 per cent of Bagdad's population possess no beds. These poor people rest on blankets spread on the floors of their houses in the winter and on the roofs in the summer. Owing to the excessive heat of these regions sleep is made impossible elsewhere than on the roof or in the open gardens. It is an interesting sight to see how the women at sunset emerge from their houses to prepare the evening meal on the roof, and spread the bedding for the night. Inasmuch as the climate is very dry, there is little to fear from exposure to the night air. While a considerable number of the roofs are surrounded by lattice work to insure a certain amount of privacy, by far the larger number are quite exposed to the gaze of curious and inquisitive neighbors.

Comparatively few foreign iron bedsteads reached this market until recently, this being principally due to the fact that no attempts were made to introduce them. About six years ago a Birmingham manufacturer managed to drive an opening wedge into the local market, and since that time English bed importations have grown rapidly. After making a close investigation in the Bagdad bazaars I have ascertained that the yearly sale of this article of furniture amounts to

$17,000. A small lot of German-made beds has just appeared, but inasmuch as they are still quite new in these parts, it is impossible to say what degree of success may attend the venture.

AMERICAN TRADE PROGRAMME.

A splendid market can be created here for American iron bedsteads, and a well-known merchant of this district [name on record at Bureau of Manufactures] is best able to introduce and handle this line of manufacture.

It should be borne in mind that goods arriving in Bagdad are not only for local consumption, but that this is a distributing center for Mesopotamia and the northwestern part of Persia. It is probable that if this business can be properly organized and conducted in Bagdad that depots can to good advantage be established in Kermanshah and Hamadan, two important trading points in Persia.

Bagdad has no newspapers in which it would pay to advertise. There is really but one publication, and that devotes its columns entirely to Government notices, transfers of officials, and recipients of decorations bestowed by the Sultan. Advertising pays in the United States and it will pay here. One way of placing goods before the native population would be to send descriptive pamphlets, attractively illustrated, printed in the Arabic language, for distribution in this territory. Arabic printing can be executed at any Arabic newspaper office on Washington street, New York City.

CHINA.

BY PROPER EFFORT THE TRADE IN AMERICAN SOAPS CAN BE ENLARGED.

Deputy Consul-General Stuart J. Fuller, of Hongkong, furnishes the following information concerning the trade in foreign soaps in China:

There is a constantly growing demand among the Chinese of South China for soaps of foreign manufacture. The imports of soap from foreign countries in 1906 were as follows, in gold: United States, $22,595; Hongkong, $74,032; United Kingdom, $515,294; Austria-Hungary, $158,704; Germany, $109,276. A portion of the imports from Hongkong was American, but how much can not be stated. The imports from Austria were more than double those of the preceding year. The imports from Germany are also increasing. The American business is slowly growing.

During the year 1906 the southern treaty ports entered only 9 per cent of the total imports for the Empire, but this does not alter the fact that the market is a growing one and capable of development. The greatest demand at present is for highly-scented soaps of medium and lower grade, put up in attractive cartons and wrappings.

Aside from the fact that the market has not been pushed by American manufacturers, their small share in the trade is laid to their refusal to wrap their product in packages bearing labels in the Chinese language. The Austrian and German manufacturers and, to some extent, the English and Australian have portions of their labels printed in Chinese, and all bear a distinctive emblem, or "chop,"

without which it is practically useless to attempt the development of a trade with the Chinese.

Most of the export and import houses in Hongkong carry English, German, or Austrian soap accounts, and it might be worth the while of American manufacturers to correspond with the companies whose names are herewith submitted. [Names of companies are on file in the Bureau of Manufactures.]

FORMOSA.

EXPORTS OF CAMPHOR AND CAMPHOR OIL SHOW LARGE INCREASE.

The British consul at Tamsui reports that the total exports of camphor from Formosa in 1907 amounted to 4,121,566 pounds, of which 2,452,933 pounds was sent to Havre, London, and Hamburg, 1,635,300 pounds to America, and 33,333 pounds to Madras. Of this amount, 1,079,733 pounds (1,046,400 pounds for America and 33,333 pounds for Madras) was shipped by local steamers from Keelung for transshipment at Kobe. Thus no camphor was ultimately destined for Japan. It was reported that there was a large increase in the camphor manufactured by the camphor monopoly in 1907 as compared with 1906, the figures being 5,388,918 pounds, as against 4,040,838 pounds.

By the latest returns the production of camphor oil has nearly doubled in 1907, being 6,710,390 pounds, as against 3,610,645 pounds in 1906. Hitherto all the camphor oil has been shipped to Kobe to be converted into refined camphor, but in the fiscal year commencing April, 1908, a sum of about $70,000 was to appear in the estimates to meet the expense of erecting a refinery in Taihoku, the capital of Formosa, and in future the camphor will undergo the necessary process there. It is said that a new method of distillation has been discovered, and that by this method, as well as by the saving of expense in transport, a considerable economy will be effected.

PHILIPPINE ISLANDS.

LARGEST IMPORTS LAST YEAR SINCE THE AMERICAN OCCUPANCY.

From a publication just issued from the Bureau of Insular Affairs, War Department, the following statistics are compiled, showing the foreign trade of the Philippine Islands for the calendar year 1907:

The total trade of the islands during the year, exclusive of gold and silver, now free government entries, was as follows: Imports, $30,453,810; exports, $33,097,867; an increase, as compared with 1906, of $4,050,042 in the imports and of $454,975 in the exports. The imports and exports of the islands with the leading countries were as follows in 1907:

Countries.	Imports.	Exports.	Countries.	Imports.	Exports.
United States	$5,067,538	$10,329,387	Japan	$1,004,303	$591,875
United Kingdom	6,811,550	9,375,448	France	903,277	3,407,972
China and Hongkong	3,096,391	4,414,306	Belgium	304,279	315,003
Australasia	1,974,714	471,667	Italy	273,825	194,941
Germany	1,919,209	498,383	All other countries	5,612,768	750,897
Spain	1,913,804	1,752,398			
British East Indies	1,572,152	989,590	Total	30,453,810	33,097,867

The relatively large amount of imports entered with "all other *countries" is due to* the imports of rice ($3,962,661) from French

East Indies and from Siam ($156,608), countries not designated in the foregoing list.

METAL GOODS' IMPORTS—MISCELLANEOUS.

Iron and steel, including machinery, are the other chief imports of the islands wherein American manufacturers should increase their trade, in which they now hold a fair share considering the little effort put forth to secure it, as will be seen by the following statement showing the imports in 1907:

Articles.	Total imports.	Imported from— United States.	United Kingdom.	Germany.
Rails for railways	$94,736	$11,105	$76,079	$3,104
Sheets and plates	352,114	99,697	230,751	2,244
Structural iron and steel	119,317	107,910	5,607	
Tools	111,510	43,716	28,903	27,398
Cutlery and builders' hardware	121,608	17,642	30,970	35,802
Castings	94,728	27,653	41,514	13,019
Pipes and fittings	127,546	29,464	93,998	2,388
All other articles	649,526	136,877	180,330	177,455
Total iron and steel	1,671,115	474,184	691,152	261,410
Machinery:				
Electric machinery	61,150	56,574	1,305	3,154
Sewing machines	115,401	25,304	3,650	86,180
Parts of, including steam engines and locomotives	100,109	30,317	62,617	6,774
Typewriting machines	49,569	47,506	1,766	67
All other machinery	294,984	130,372	88,947	18,607
Total machinery	621,213	290,073	148,285	114,791
Total iron and steel and machinery	2,292,328	764,257	812,437	376,201

In leather and leather goods the United States holds 65 per cent of the total trade; in boots and shoes, $301,181 out of a total import of $419,749. In cement, out of a total import of $319,319, only $547 worth was imported from the United States, against $79,842 from the United Kingdom, $30,474 from Germany, and $189,319 from Hongkong. In chemicals and medicines, opium excluded, out of a total import valued at $411,899, the share of the United States was only $84,280. In India-rubber goods and scientific instruments the United States holds the greater part of the trade. The imports of illuminating mineral oil from the United States in 1907 amounted to $635,734 in a total import of $859,278, which the Bureau of Insular Affairs says was more than double the imports of the American product in 1906. The balance of this product was imported from Dutch and British East Indies. In paper and paper manufactures the United States has a good lead of any other country.

LINES OF AMERICAN COMPETITION—TEXTILE IMPORTS.

To arrive at any fair conclusions as to the standing of the United States in the Philippine import trade, and wherein such standing can be increased, it is necessary to eliminate for the present to some extent certain products supplied by Asia and Australasia, among which are cattle, imported from China and French East Indies; coal from Australasia; rice from French East Indies and Siam; fresh beef from Australasia, and other meats from Australasia and China. In relation to the flour trade of the islands, the Bureau of Insular Affairs says:

Up to 1904 this was a virtual monopoly of the United States, but American flour has rapidly lost ground since, and in 1907 the imports amounted to only $396,151, while the Australasian product, with the advantage of a shorter haul

and a lower price, has found a steadily increasing market in the islands, from a nominal value of $1,185 in 1903 to $649,704 in 1907.

The flour imports from the United States in 1907 averaged about $4.04 per barrel, and from Australasia $3.88 per barrel.

Deducting the total imports of Asiatic and Australasian imports leaves about $20,000,000 as the imports into the islands wherein American trade might at once be increased.

The principal import of the islands in this latter computation is cotton manufactures, wherein American exporters hold a very small percentage, comparatively speaking, as will be seen in the following statement showing the imports in 1907:

Description.	Total imports.	Imported from—				
		United States.	United Kingdom.	Spain.	Germany.	Switzerland.
Cloth	$6,113,189	$884,775	$3,588,287	$134,245	$144,677	$370,554
Knit fabrics	965,852	10,724	16,343	626,875	244,671	26,814
Tulles and laces	93,647	372	70,527	767	7,229	737
Wearing apparel	121,232	26,413	15,396	839	44,007	11,515
Yarn and thread	1,229,333	3,837	763,025	15,385	14,776	118,685
All other articles	401,493	24,344	158,978	30,670	85,498	22,905
Total	8,924,746	950,465	4,612,546	808,781	540,948	551,210

The foregoing countries are those with which the United States will have to compete for the cotton-goods trade of the Philippines, the character of the goods being, approximately, the same as American cottons. However, Asia must also be taken into account as a competitor for this trade, the imports from British India in 1907 amounting to $558,012, and those from Japan $250,510; cotton cloth from the first amounting to $345,011, and yarns $206,974, and cotton cloth from Japan amounting to $203,881.

SALES EFFORTS—TOTAL EXPORTS—SHIPPING STATISTICS.

In nearly all imports of manufactures into the Philippines in 1907 the share of the United States was only partly satisfactory, while its share of the imports of cotton manufactures, especially cotton piece goods, was very small. With anything like proper effort on the part of American factors there is no reason why one-half the piece-goods trade of the Philippines should not be composed of American cloth. With the proper efforts put forth in this direction an increase in all other cottons would necessarily follow.

Of the exports from the Philippines to the United States ($10,329,387), hemp constituted $9,316,539, the other chief exports to the United States being sugar, copra, and maguey. Hemp, copra, and sugar constituted $19,689,493, $4,784,151, and $4,195,671, respectively, of the total exports of the islands—hemp alone being nearly 60 per cent of the whole.

According to the Bureau of Insular Affairs the shipping engaged in the foreign trade of the Philippines in 1907 was as follows:

Flag.	Entered.	Cleared.	Total.
	Tons.	*Tons.*	*Tons.*
American	89,670	87,233	176,903
British	867,000	828,494	1,695,494
German	181,602	174,253	355,855
All other	241,632	239,458	481,090
Total	1,379,994	1,329,438	2,709,342

DUTCH EAST INDIES.

EXTENSIVE SHIPMENTS FROM THE ISLANDS TO THE UNITED STATES.

Consul B. S. Rairden sends from Batavia the following statistical exhibit of the exports from Netherlands India to the United States for the past three calendar years. The figures for 1907 are from his consular records, while many of those for the two previous years are from Government statistics:

Articles.	1905.	1906.	1907.
Bamboo hats	$148,881	$296,909	$211,220
Cassia	132,654	119,676	130,922
Cocoa	61,459	192,498	182,576
Coffee	1,537,900	1,186,381	1,290,291
Damar	165,634	315,080	210,124
Getah jelotong	----------	10,168	3,300
Grass (pandan) hats	----------	355	42,973
Gum copal	32,404	24,435	34,168
Hides and skins	115,927	278,815	363,351
Kapok fiber	333,256	319,070	470,034
Mace	25,085	32,159	30,156
Nutmegs	98,570	50,165	70,934
Oil of citronella	1,129	26,914	30,745
Pepper:			
Black	300,181	437,049	174,505
White	----------	8,430	35,343
Petroleum (to Manila)	----------	35,422	----------
Quinine	75,774	84,149	25,087
Rattan	80,966	85,636	80,002
Rubber	18,447	21,401	24,413
Shells (pearl)	81,675	90,557	180,455
Sugar (direct)	11,667,304	8,645,000	13,421,421
Sugar (f. o.)	9,776,792	1,698,578	----------
Tapioca flour	100,305	384,454	515,980
Tin	23	----------	51,642
Wood:			
Sandal	----------	218	24,664
Teak	14,383	23,756	14,525
All other	310,881	118,116	49,510
Total	25,029,630	14,485,481	17,638,431

Of the $363,351 worth of hides and skins exported to the United States during 1907, $279,866 was goatskins, $11,775 sheepskins, $3,792 deerskins, $909 snake skins, and $234 for lizard skins, the balance being for hides.

NEW ZEALAND.

DROP IN EXPORTS TO UNITED STATES—BUSINESS CONDITIONS.

The falling off of exports from New Zealand to the United States was so remarkable during the quarter ended March 31 that Consul-General William A. Prickitt, of Auckland, sends the following report, giving statistics of comparison with former years:

The exports from Auckland to the United States for the quarters ending March 31 during the last two years were as follows:

Year.	1907.	1908.	Decrease.
Flax fiber	$26,822	$9,887	$16,935
Pelts	155,828	27,962	127,866
Wool	138,319	11,088	127,231
Total	320,969	48,937	272,032
Total exports	322,767	51,526	317,240

The important exports to the United States from the Auckland Province are kauri gum and flax fiber. Auckland Province is the only source of supply for the former product, and the United States has taken considerably over half the entire production for many years. Last year it took two-thirds of the output of 8,300 tons. The sudden falling off in orders from America has created a great depression in this industry. Many of the gum diggers have stopped work, prices have declined at least 20 per cent, and the volume of business is much diminished. It is thought that this depression will be but temporary, and as soon as the present stock in the hands of consumers is exhausted and business revives in the United States buyers will resume their purchases.

During the early part of 1907 the highest price ever received for New Zealand flax was recorded, $185 per ton. At present the price is $107 per ton. The cause of this decline is attributed to the largely increased output and low price of Manila hemp and the financial troubles in the United States. Many of the flax mills have been closed, and the outlook for the immediate future is not reassuring.

"All other" exports in the table indicate the trade of Auckland with the west coast of the United States. This trade was increasing rapidly, but since the suspension of the Oceanic steamship service it has become practically nil.

In regard to the imports into New Zealand from the United States for the first quarter of this year the figures are not yet available, but it is probable that the total value is greater than last, for the reason that importers have been giving large orders in lines of goods affected by the preferential tariff after March 31, 1908.

GOOD BUSINESS INDICATIONS.

Business in Auckland has been exceedingly prosperous for a number of years, and is yet very good. All the great distributing houses report a large trade. The building trades particularly are well employed. A new city hall, a post-office, and a Young Men's Christian Association building, costing in the aggregate over $1,000,000, are to be erected as soon as the architectural plans are perfected. Many other improvements, including a drainage system for the city of Auckland and its suburbs, are in contemplation. The butter and cheese industry has been making rapid headway by reason of the great fertility of the many small farms of Auckland Province. The exports of these products last year were greater than ever before. Although exportation has been retarded by drought during the first part of 1908, the indications now are that an excellent trade at increasing prices will endure for the balance of the year. The leading bankers report as yet no stringency in money. Business, therefore, should continue to be good in Auckland in spite of the declines in prices of the important exports of wool and flax and the depression and diminution of sales of its unique product, kauri gum.

REPORT FROM CHRISTCHURCH.

Consular Agent Frank Graham reports the decrease in the three principal exports to the United States from the Christchurch consular agency for the quarters ending March 31, 1907 and 1908, as follows:

Description.	1907.	1908.	Decrease.
Flax fiber	$26,822	$9,887	$16,935
Pelts	155,828	27,962	127,866
Wool	138,319	11,088	127,231
Total	320,969	48,937	272,032
Total exports	322,767	51,526	317,240

Mr. Graham writes:

With regard to the industrial and business conditions existing in this locality, we have had a long continuance of very prosperous years, particularly with respect to our agricultural and pastoral products. The money stringency in the United States is now being reflected here and is no doubt the chief cause of the falling off in volume and value of exports from New Zealand to the United States.

The flax industry is almost at a standstill. Wool has fallen in value probably 50 per cent from the highest point, and when it is remembered that every penny (2 cents) in the price realized in London or elsewhere means a sum of say upward of $3,000,000 less annually to come back to New Zealand it is significant with respect to trade generally. Kauri gum, for which the chief market is the United States, has also fallen in value and the demand for pelts is at the present time nominal.

The preferential duties which came into force on April 1, though calculated to help Canada in her trade relations with these colonies by enabling her exporters to raise their prices, will, so far as New Zealand is concerned, be a revenue-producing measure, and American and other foreign goods will continue to be imported in competition with the Canadian. Trade appears to be very sound at the present time, but the banks and lenders show signs of a conservative policy, and the tendency is for dearer money.

There has been an exceedingly dry summer, but the grain crops are excellent and good rains have lately fallen which will insure winter feed for stock unless frosts intervene.

The accumulations of the last ten years or more have placed the farmers in a most prosperous position and most of them are quite independent of any outside monetary assistance. Indeed it is perhaps not too much to say that the farming community of New Zealand generally is probably the most prosperous that could be found in any country.

CONDITIONS IN SOUTHERN NEW ZEALAND.

Consular Agent F. O. Bridgeman reports heavy decreases in the exports to the United States from the Dunedin agency, the amounts for the first quarters of this and last year having been as follows:

Description.	1907.	1908.
Flax fiber	$7,816	$8,469
Pitch	152	
Wool	383,238	3,206
Total	391,206	11,675

Mr. Bridgeman writes:

The falling off is in the export of wool, of which, from this season's clip, practically nothing has been shipped to the United States.

To the absence of American buyers is to be attributed in a great measure the sharp decline in the price of this, one of the staple products of the Dominion. Fine cross-bred and half-bred wools are particularly affected by the shortage in the demand from the United States, and the average price of these wools in comparison with prices ruling last year has fallen 50 per cent. It is anticipated, however, that this decline is but temporary, and that the market will be more in favor of producers before the end of the year.

Business generally in my district continues prosperous and sound. The farmers and pastoralists have had several "fat" years and are now in a sufficiently strong position financially to stand any temporary depression. Grain is still ruling at high prices, very profitable to the growers and the recent harvest was a good one in the southern districts of the Dominion.

Our local industries are doing well generally, the woolen mills benefiting by the fall in the price of the raw material. The foundries and engineering works are not so active as they have been, which is to be accounted for to some extent by the gold-dredging industry being considerably curtailed. This industry, which is carried on principally in the district of Otago, had exceedingly good results when its was first started a few years ago and a great number of dredges were built in Dunedin, which kept the iron foundries very busy. The majority of the dredges, however, failed to give payable results, and dredging for gold is now confined to a few good claims which continue to give a fair return. At present there are about 130 dredges owned by public companies working in this district, and the average total yield of these is about 8,000 ounces per month. In addition to these there are some privately owned dredges, the returns from which are not made public.

TRADE IN CAPITAL CITY DISTRICT.

Consular Agent J. G. Duncan reports the following decreased exports to the United States from the Wellington agency for the quarters ended March 31:

Description.	1907.	1908.
Pickled sheep and lamb skins	$141,002	$146,882
Flax fiber	25,975	26,352
Salted sheep casings	24,296	
Wool	23,361	5,430
Natural history specimens		365
Total	214,634	179,029

Mr. Duncan writes:

With regard to the industrial and commercial conditions now existing I may say that the outlook is far from as promising as at this time last year. Conditions have altered entirely in the last six months, during which time the main staple products of the Wellington and Hawke's Bay provinces—wool, meat, and hemp—have fallen in value about 25 per cent. Butter and cheese, on the other hand, are unusually high; but owing to the summer having been the dryest experienced here for over twenty years, the output of these articles has been so reduced that producers have been unable to fill existing *contracts, much* less take advantage of the ruling high prices.

Again, there is a growing tightness in the local money market, largely due to a wave of caution passing over the community, which was startled by the recent financial crisis in the United States.

Labor conditions are unsettled, and altogether there is reason to fear that the winter may be bad for trade generally.

However, the rapid cheapening of money in London may ease the local financial market; and this, combined with improved conditions in the United States, may result in reinstating the values of wool and hemp in the world's markets, which would be followed by a return of the prosperity which has been with us for the past decade.

EAST AFRICA.

EXCHANGES WITH THE INTERIOR—AMERICAN INTERESTS.

The following information concerning the changes in the trade of Zanzibar owing to the increasing commercial importance of British and German East Africa, together with the conditions prevailing in the three divisions, is furnished by Consul Calvin F. Smith, of Zanzibar:

For years Zanzibar was the entrepôt for Africa. Trade routes centered here, ivory and other products from the interior of the African continent were brought here and exchanged for the cotton goods and trinkets which formed the medium of exchange with the natives. Ships from Europe and America discharged their cargoes here and carried back the ivory, cloves, and skins. But all such products now find entrance and outlet through British and German East Africa. It must not be inferred, however, that the trade of Zanzibar has decreased proportionately as the trade of the coast towns has increased. Barring the setback which the Zanzibar trade received by reason of the quarantine against the plague, the trade of Zanzibar is very good and has been so for some time. All the trade of Zanzibar and Pemba goes through Zanzibar, and these two islands produce, according to recent estimates, 95 per cent of the cloves used in the world, and the clove crop for the last two years was excellent.

MOMBASA AS A TRADE CENTER.

The completion of the Uganda Railroad from Mombasa to Port Florence on Lake Victoria Nyanza, 580 miles, suddenly brought Mombasa into prominence as one of the future mainland ports of East Africa, and this has been enhanced from year to year until now Mombasa is a port of call for all the regular steamship lines maintaining communication with Europe. The Uganda Railroad taps not only the heart of Central Africa, but draws a considerable amount of its carrying trade from sections of German East Africa not reached by the German railroads. Very little if any of the goods shipped to or from points served by the Uganda Railroad reach Zanzibar for transshipment.

To add to all this the climate of the plateau behind the low coast belt was found favorable to Europeans, and modern towns began to spring up in that section, along the railroad, quite European in character, notably Nairobi and Machakos. European settlers came to

those towns, settled the surrounding country and engaged in agriculture. This created a demand for agricultural and labor-saving machines. Some American manufacturers have taken advantage of this opportunity and are sending their representatives into that country, which is developing rapidly and offers excellent opportunities to manufacturers of agricultural machinery. Rubber and fiber plantations are being laid out and cattle ranches established. A commercial campaign to secure a fair share of this trade must be conducted from Mombasa. Most of the commercial nations have consuls there looking after this trade. Mombasa has an excellent harbor, called Kilindini.

But little more can be said of the climate and health conditions than has already been said of Zanzibar. Mombasa Island is higher and some claim that it is healthier. The old firms who have been in Zanzibar and on the coast for years have realized the growing importance of Mombasa and nearly all of them have branches at that place. The town has wide streets and more of a modern European aspect than Zanzibar. The immigration authorities of British East Africa are rather strict, and require the intending settler to have a capital of at least £50 ($243) on landing.

GERMAN EAST AFRICA AND THE ZANZIBAR DHOW TRADE.

German East Africa has a simpler and more expeditious system for registering homesteads or plantations than British East Africa. It is pushing into the interior by two principal lines of railroad instead of one, and even more are projected. The northern line has Tanga for its port and taps the Kiliminjaro country, while the southern line extends inland from Dar-es-Salaam, the principal town in German East Africa and the place of residence of the governor. It is proposed to still further extend either one or both of these lines. Each road has its adherents and both sides produce good arguments why its line ought to be extended. The steamships of the German East African line call regularly at both Dar-es-Salaam and Tanga.

By these means of communication but little is left to filter through Zanzibar except the dhow trade from the East African mainland. The dhow trade between Zanzibar and the various coast towns is considerable. During the northeast monsoon hundreds of dhows come from the Somali coast, Persian Gulf, and India loaded with various products of these places, and return after the monsoon has changed with cargoes of goods acquired by purchase or exchange in Zanzibar. During the southwest monsoon almost equally as large a number of dhows come from Madagascar and the South. Zanzibar will retain the dhow trade by reason of its location, and for this reason it will always be a place of transshipment, regardless of the growing importance of the coast towns.

EUROPEAN-EAST AFRICAN STEAMSHIP COMMUNICATIONS.

The Messageries Maritimes, German East Africa, and the Peninsular and Oriental lines—the last named by change at Aden to the British India Line—maintain regular services from Europe to Zanzibar and East Africa.

The Messageries Maritimes has a monthly service from Marseille to Mombasa and Zanzibar, the boats, both coming and going, calling at Port Said, Suez, and Jibuti. The German East Africa Line maintains a fortnightly service to Zanzibar and East Africa, the steamers, both incoming and going from Hamburg, calling at Flushing,

Dover, Lisbon, Tangier, Marseille, Naples, Port Said, Suez, Aden, Mombasa, Tanga, and Zanzibar. This route requires a few days more from Marseille. Transshipment of goods to and from the United States is usually made at Hamburg.

The Peninsular and Oriental steamers running between England and the eastern ports require transshipment at Aden. Regular communication is also maintained between Zanzibar and Bombay by two lines, and between the former place and the lesser coast towns, such as Lamu and Mogadischu, by various smaller steamers.

AMERICAN INTERESTS IN ZANZIBAR.

The Zanzibar Railroad Company, the Zanzibar Electric Light Company, and the Zanzibar Telephone Company are three American corporations doing business in Zanzibar. The Zanzibar Railroad Company has built and is operating a line of narrow-gage railroad from Zanzibar City to Bububu, 7 miles distant. It is proposed to extend this road the entire length of the island, which will then form one of the principal means of communication between Zanzibar City and the island of Pemba. The railroad starts at Palace square in the city and, after running through the Malindi district of the city and the Indian Bazaar, follows the west coast of the island to its northern terminus. The trains consist of a locomotive built in Pittsburg, Pa., and two open cars and one chair car, built by the Brill Company, of Philadelphia. The chair-car fare from one end to the other is one rupee, about 33 cents. The fare on the open cars is considerably less. The road is well built with iron ties and good-sized rails, but the climatic conditions of Zanzibar reduce the life of an iron tie. Little grading was required for the railroad, since the highest point on the island is said to be only 300 feet above the sea level.

The Zanzibar Electric Light Company has a splendid plant. It is modern in every respect, and furnishes good light and service. The Sultan's palace as well as the houses of the Sultan's family and retainers are wired and lighted throughout. By means of a tower studded with incandescent lights, having an aggregate lighting capacity of 3,000 candlepower, the palace square is always brilliantly lighted. The streets are also well lighted by means of incandescent lights.

The telephone is steadily making its way into a great many business and official houses of Zanzibar, and bespeaks Zanzibar's progress in introducing modern inventions and installing all the facilities enjoyed by European and American towns of the same size.

Wireless communication was recently established between Zanzibar City and the island of Pemba. It is said that the messages are sent in Swahili, which is the language of the natives of Zanzibar and the parent of a great many native languages of the coast.

The principal imports from the United States are cotton goods (Merikani) and petroleum. There are, however, many articles of American manufacture exposed for sale here which do not figure in the custom-house reports as American, because they are furnished by European merchants, notably, watches, clocks, and sewing machines. The last-named article is extensively used and there seems to be a large demand.

Most of the cotton goods imported are reshipped to points on the mainland, and while the superiority of American cottons is acknowl-

edged by the tradesmen as well as the consumers, a large part of the cotton goods sold here for wearing apparel is German. The natives are very fond of bright and gaudy colors, which the German manufacturers study and supply accordingly. The fashions change here as well as in New York and Paris, and the manufacturer who wishes to keep the trade must study the desires of the natives closely. The men, as a rule, wear only the white bleached cottons.

CURRENCY OF THE COUNTRY.

The standard of currency in Zanzibar and in German and British East Africa is the silver rupee, worth about 32.4 cents. In Zanzibar the other coins in use are the one-half and one-fourth rupee pieces silver, and the pice, a copper coin. German East Africa has introduced the German rupee, which is in value about the same as the Zanzibar rupee, but is not current in Zanzibar or British East Africa.

British East Africa has recently made a numismatic experiment in the introduction of aluminum money. The silver rupee still remains as the standard of currency, but instead of the former divisions into pice and annas the fractional aluminum coin is a cent. There are one hundred cents to the rupee. The aluminum coins consist of 1, 5, and 10 cent pieces. The 10-cent piece is as large as the rupee. The aluminum coins do not have milled edges, but have round holes in the center. The newcomer at once notices the disadvantage of a coin as light in weight as an aluminum cent, but also the advantage to the native of the hole in the center so that the coins can be easily strung.

PRODUCTS OF ZANZIBAR AND PEMBA.

There is no place in the world where the clove tree thrives as well as in the islands of Zanzibar and Pemba. It is the principal product of the islands and together with copra and the ivory brought from the mainland cloves form the principal item of export. Since the abolition of slavery the clove plantations have been neglected for lack of labor. Most of the plantations were formerly in the hands of the Arabs and as the natives could be made to work the grass and weeds were kept out of the plantations, but since the natives can not be forced to work, it is hard to get any to work even for a fair remuneration. Various methods have been employed by the land owners to keep the plantations free from weeds, resorting even to the American disk harrow to cut up and clear the spaces between the trees of the rank vegetation, but so far with little success. This problem is still unsolved, but with the introduction of a machine able to weed the spaces between the trees, clove as well as cocoanut, a new era will come to the owner of the Zanzibar plantation.

The cocoanut palms are of two kinds—the Zanzibar, with its high trees and large green husked cocoanuts, the dried meat of which furnishes the copra of commerce, and the Pemba cocoanut palm, smaller in size, with a reddish husk, a very thin layer of meat, but entirely filled with milk, called madafu. This cocoanut furnishes the native drink both before and after fermentation. The mangoes are of a good quality and plentiful, but are inferior to the Bombay mango. Oranges and limes, pineapples and bananas, are plentiful, though the price realized for them in the market sometimes does not pay the *cost of* transportation.

EGYPT.

REVIEW OF COMMERCIAL AND OTHER CONDITIONS DURING LAST YEAR.

Consul-General Lewis M. Iddings, of Cairo, transmits the report of the British consul-general at that port covering the general conditions and trade of Egypt for last year, from which the following résumé has been compiled. In reducing the statistics quoted in the report to American currency, the Egyptian pound sterling has been estimated at $5 instead of $4.943, its present value:

The foreign trade of Egypt in 1907 consisted of imports amounting to $130,603,885 and exports of $140,065,925, an increase in the former of $10,549,910 and in the latter of $15,679,525 over those of the previous year. In dealing with the imports by countries the report gives only those countries from which Egypt imported over $5,000,000 worth of goods, the others being included under "All other countries."

The following statement shows the imports into Egypt from the eight leading sources in 1906-7:

Countries.	1906.	1907.	Countries.	1906.	1907.
United Kingdom	$39,283,275	$42,464,235	British possessions	$5,852,180	$6,499,440
France	13,712,795	15,834,450	Belgium	6,148,490	5,137,950
Turkey	15,206,185	14,865,540	All other countries	18,667,506	21,735,965
Austria-Hungary	8,594,065	10,297,115			
Germany	6,538,375	6,961,905	Total	120,053,975	130,603,885
Italy	6,051,106	6,807,285			

CLASSIFICATION OF THE IMPORTS.

The Egyptian customs divide the imports into fourteen classifications or groups, which does not permit of as particular analyses as might be desirable, all manufactures of cotton, wool, linen, jute, etc., being included in textiles. The following table shows the imports for 1907 compared with those of 1906, and also the share of the United Kingdom in this trade in the former year. In "All other articles" is included tobacco to the value of $3,477,260 in 1906 and $3,581,035 in 1907, which, by reason of being reexported, is not included in the regular classification:

Classes.	1906.	1907.	Imports from United Kingdom in 1907.
Textiles	$30,504,175	$35,034,185	$19,070,265
Metals, and manufactures of	19,343,185	19,803,940	9,514,735
Coal and wood	15,138,885	17,034,940	7,572,750
Cereals, vegetables, and farinaceous foods	15,357,845	14,819,770	766,770
Animals and animal foodstuffs	5,369,630	6,404,195	345,170
Spirituous liquors and oils	5,323,760	5,757,105	895,610
Stone, earth, glass, etc	3,159,665	3,871,970	593,435
Chemical products, medicines, and perfumery	3,173,105	3,810,325	545,100
Colonial wares and drugs	4,999,325	3,797,150	465,720
Hides and manufactured leather	1,884,085	2,323,120	657,485
Paper, books, and printed matter	1,785,515	2,026,630	347,490
Dyeing materials and colors	1,445,780	1,459,790	234,680
Animal products	423,930	462,260	152,865
All other articles	12,145,090	13,998,505	1,302,160
Total	120,053,975	130,603,885	42,464,235

FACTS AND FIGURES SHOWN BY A STUDY OF THE TRADE.

In a study of the imports for 1907 that of textiles is by far the most important category for British trade, as out of a total import of

$15,840,440 worth of cotton fabrics the United Kingdom supplied $13,801,840. The import of cotton piece goods was more seriously affected by the financial conditions in August, September, and October than any other article, the receipts being some $1,435,000 less than for the same period of 1906.

In metal goods and manufactures, out of $9,846,805 worth of wrought iron and steel and $5,347,685 worth of machinery, $4,314,635 of the former and $2,835,965 of the latter were of British origin.

Petroleum imports increased 14,000 tons in quantity and $175,000 in value, and is now almost entirely imported in bulk. Coal imports reached 1,576,000 tons, an increase of 12 per cent.

Receipts of wheat and flour were both lower than in 1906, while those of leaf tobacco increased about 2 per cent.

Of the total exports of $140,065,925 in 1907, cotton and cotton seed amounted to $130,764,555, leaving only $9,301,370 for all other products. The details of these two products are given as follows: Cotton, $117,989,220, of which $61,358,920 went to the United Kingdom; cotton seed, $12,775,335, of which $11,133,965 went to the United Kingdom. The exports of cotton were about $15,000,000 more than in 1906. There was a marked decrease in the exports of the new crop of cotton to the United States. Of the export trade the United States took about $10,504,944 against $7,660,900 in 1906. [The United States, in 1907, imported $17,671,271 in value, at Egyptian prices, of cotton from that country as compared with $8,247,690 in 1906.—B. of M.]

Cigarettes were exported to the amount of 1,084,674 pounds, against 1,300,727 pounds in 1906. The diminished exports to Germany more than account for the difference, the shrinkage being due to the German tariff law which went into effect in 1906.

COTTON GROWING—PROGRESS IN OTHER LINES.

There has been a general increase in the area planted in cotton in Egypt, but unfavorable climatic conditions affected the yield and the total will not exceed that for the previous year, which was the largest on record. The crop for 1907 is estimated to be between 650,000,000 and 700,000,000 pounds. The average yield per feddan (1.03 acres) is shown to have decreased from 551 pounds to 427 pounds during the last decade.

In 1907 the ministry of education had under its direct management or inspection 192,500 pupils, compared with 182,237 the previous year. It is estimated that 24 per cent of all the boys of school age are actually in attendance at school. A strong desire exists to have girls properly educated, and the government schools for girls are overflowing, the total number in attendance at 2,270 such schools being 14,972, an increase of 10 per cent over 1906.

The postal receipts were $1,530,000, against $1,185,000 in 1906, the net surplus being $310,000, compared with $260,000 in 1906. The number of parcels sent by post were 900,000, against 858,000 in the previous year. The savings-bank service was extended to 20 post-offices, making a total of 162 offices transacting savings-bank business. The number of depositors at the end of the year was 74,179.

By a census taken in April the population was shown to be approximately 11,192,000, an increase of 1,457,595, or 15 per cent, over *the census of* 1897. The census did not include about 80,000 nomad *Arabs.*

The Egyptian debt outstanding on December 31, 1907, amounted to $437,240,000, involving a charge of $16,620,000 on account of interest and sinking fund.

CONDITIONS IN THE SUDAN REGION.

Imports into the Sudan in 1907 amounted to $6,072,945, an increase of $1,685,770 over 1906. Among the various commodities imported, clothing, coal, machinery, and railway material show considerable increase. The exports were $1,788,645, an increase of $798,895 compared with the previous year. The principal item of export was gum, amounting to 20,393,620 pounds.

The area under cultivation in the Sudan was 1,423,971 acres, an increase of 415,329 acres over 1906. The Sudan Irrigation Service, in addition to its work connected with the various projects for increasing the water supply of Egypt, is also engaged in the proposed canalization of the Gezira, which will bring under cultivation large tracts of fertile soil for the growth of cereals and cotton. Steady progress has been made in the cadastral survey, which is of such great importance in an agricultural country like the Sudan. In Berber province 46,589 acres and in Halfa province 12,000 acres have been surveyed.

The bridging of the Blue Nile at Khartoum will facilitate the extension of the railway into the fertile district of the Gezira. The work is now well in hand and should be completed within two years.

There are in all 56 post and telegraph offices now open in the Sudan. The total mileage of telegraph lines is 4,422, an increase of 185 during the year.

The American Mission Station at Doleib, on the Sobat, continues to do useful work among the Shilluk tribe, and it is the intention of the society to extend the sphere of action in the near future. A small staff of American clergymen and ladies are in charge of the mission, in the several schools of which 140 boys receive instruction.

MOROCCO.

DEVELOPMENT OF COUNTRY WILL CREATE DEMAND FOR BEDSTEADS.

Vice-Consul-General Philip Bayard, writing from Tangier, describes the sleeping accommodations in Moroccan homes and the opportunity for modern American beds:

The native Moorish population does not use bedsteads of any kind, but sleep on carpets or mats laid on the floor. The greater part of the native Jewish population are accustomed to sleep in the same manner. The Europeans in Morocco (almost entirely confined to the coast towns) number about 10,000, to which may be added an equal number of Jews who dress and live as do Europeans.

Among these 20,000 Europeans and Jews there is, of course, a demand for metal bedsteads and mattresses. Some of the wealthy Moors buy bedsteads to place in their houses as ornaments (just as they fill their houses with clocks and mirrors), but prefer to sleep on the floor as their fathers did before them.

The penetration of civilization into Morocco has been exceedingly slow up to the present time, there being no railways and no made roads of any kind outside the vicinity of Tangier. It is probable, however, that in the near future roads and railways will be built

and works of harbor improvement undertaken. In fact a beginning has already been made in the latter direction.

This country is rich in natural resources and has one of the finest climates in the world. It is destined to support a large European population. Traveling representatives should speak Spanish, which is the language most in use among the Europeans and Jews in this country, and French is also very useful. The principal obstacles to the sale of American goods here, so far, have been the absence of any means of direct transportation between American and Moroccan ports, and the indifference of American exporters. The duty on imports of whatever nature is 12½ per cent ad valorem. Metal bedsteads are imported from England, France, Germany, and Spain, but by far the greater part from England.

There are no new hotels, hospitals, or barracks in this vicinity. I inclose a list of the hospitals and the principal hotels, and also the list of furniture dealers and banks [obtainable from the Bureau of Manufactures].

TRANSPORTATION.

WORLD'S RAILWAY SYSTEMS.

BRAZIL.

DEVELOPMENT OF TRANSPORTATION SYSTEMS IN THE REPUBLIC.

Consul-General George E. Anderson, of Rio de Janeiro, advises that the Brazilian Government policy in pushing forward railway construction is being exemplified in other parts of the country than in the Sao Paulo-Goyaz system, of which a report has previously been made from his consulate-general. Mr. Anderson adds:

The progress is also being reflected in the policy of the several State governments. Recently a contract was signed by the government of the State of Minas Geraes for the extension of the Leopoldina Railway system from the present northern terminus at Santa Luzia north to Manhuassu and along the borders of the State of Espirito Santo to connect with the Leopoldina branch coming up farther west. This extension will not only open up a vast and fertile country about Manhuassu, but will afford rail and river connection with the port of Victoria for considerable traffic which now is handled by mule trains. The extension will be something over 200 miles.

The Federal Government has announced that it is concluding an arrangement with the Great Western Railway of Brazil for the construction of a line from Campina Grande to Batalha, in the State of Parahyba do Norte, in order to open up considerable country which has suffered greatly from droughts, but which will probably be amenable to modern "dry-culture" cultivation under the auspices of the Government experts employed to investigate possibilities in this line.

According to the report of the minister of public works, there were added to the railway mileage of Brazil last year the following extensions, in kilometers (kilometer=0.62 mile): Ceara Mirim, 11; Baturite extension, 20; Great Western, 50; Victoria-Minas, 64; Central of Brazil, 40; Goyaz, 30; Bauru-Corumba, 110; Sorocabana, 97; Sao Paulo Rio Grande, 131; C. Auxiliare Chemins, 148—a total of 701 kilometers. These 435 miles are scattered over the entire country, and represent general development rather than any particular project. The connecting of the Sorocabana and Sao Paulo and Rio Grande systems and the work on the railway to Corumba represent the most extended work now in hand.

ONE LINE SERVES AS BUSINESS INDICATOR.

The last report of the Leopoldina Railway Company is in some respects the best exposition of the situation of the railway business of Brazil. The Leopoldina is taken by European investors as the indicator of Brazilian business conditions. When the Leopoldina has a good year, Brazilian trade is good, and when it has a bad year Brazilian trade is not satisfactory. The Leopoldina operates under a number of Government guaranties, although it is privately owned

and managed, and it therefore also measures railway conditions from the standpoint of the Government roads and the private roads. The last annual report at hand shows that the Leopoldina operates 1,423 miles of road. During the year it carried a total of 2,481,340 passengers of all classes (there are three classes of passenger service in Brazil), for which the road received $851,700, or about 34 cents per passenger. This rate includes suburban service, but not baggage, which is carried separately upon a separate charge in Brazil. The total amount of freight carried was 528,742 tons, for which the earnings were $4,171,800, or about $7.80 per ton. The receipts per train mile were $314 and the expenses $2.08. The consumption of fuel, wood, and Cardiff coal was 32.92 pounds per engine mile. The consumption of lubricants per 100 engine miles was 8.57 pounds.

The road has declared 4 per cent dividends on its stock for a number of years, carrying forward annually considerable sums for the upkeep and upbuilding of the road, for the equalization of dividends, and for sinking funds. Much of the road reverts to the Federal and State governments at the end of certain terms, although recent contracts for extensions are extending or doing away with such terms or reversions.

MEXICO.

LINE TO GUATEMALAN BORDER A LINK IN A GREAT PAN-AMERICAN.

Ambassador D. E. Thompson forwards from Mexico City a translation of an article from a Mexican journal describing the opening of the new Mexican Pan-American Railway, which says in part:

For more than four years the work of constructing the Pan-American Railway has been conducted with activity, and according to the purposes of those who initiated this enterprise it shall start from the United States and end in Panama. Work has been carried on with much effort, and the company has had the support of the Mexican Government and the good will of many capitalists, natives as well as foreigners. The original idea has been realized. It consisted in building a line from San Jeronimo on the Tehuantepec Railway to Tapachula in Chiapas. Later it will be extended to Port San Benito, the last one on our Pacific coast.

The inauguration was presided over by Governor Rabasa, of the State of Chiapas, and celebrated gaily and enthusiastically by the inhabitants of places on the line. Stations were decorated with taste. Tuesday was a day of a double meaning for the people of Chiapas, the celebration of the 5th of May and the inauguration of the new railway. The branch inaugurated starts from Huixtla and ends at Tapachula, an extension of 75 kilometers (kilometer =0.62 mile). The total length of the line on Mexican territory is 491 kilometers. The line will pass, aside from other places, by Juchitan, Cerro Loco, Reforma, Aurora, Jalisco, Tonala, Pijijiapan, Mapastepec, Esquintla, Tapachula, and Port San Benito.

The Federal Government gave a subsidy to the constructing company of $19,200 per mile, and, according to the railway law, the concession will last ninety-nine years, during which time the company will operate the line.

INTERNATIONAL IMPORTANCE—COFFEE HANDLING.

When the line was thought of all the financiers and men of business of this Republic considered it a great project and that its results would be splendid. Besides, President Roosevelt, in addressing the House of Representatives on a certain occasion, said: "The decision of the Mexican Government in granting the construction of a railway that will reach the Guatemalan frontier is of great importance and advantage to the commerce of Mexico and the United States."

The material used in the construction of this railway could not be better. *The rails are* made of steel, weighing 56 pounds for [illegible] 125 miles, and *60 pounds for the rest.* Bridges are also of [illegible] Stations are

built with brick and cement, all of them according to the same plan, and presenting a pleasant and artistic aspect. The Pan-American Railway may be considered as one of the best in the Republic.

The Pan-American Railway crosses through regions in which coffee is the principal product, and the builders believe that within a short time the freight revenue from coffee alone will cover the cost of the construction of the road. The coffee produced on the zone traversed by the new railway already reaches a total of 40,000 tons per year. The freight rate from the Guatemalan frontier to San Jeronimo is to be 30 pesos ($15 gold) per ton. At San Jeronimo coffee will be shipped over the Tehuantepec Railway, and from this point it will go to Coatzacoalcos to be finally shipped to Germany, the leading market for this national product.

The new rail line is very beneficial to the States of Oaxaca and Chiapas, as the products of these sections of Mexico will find an easier and cheaper outlet than they had before.

The Mexican Herald quotes J. M. Neeland, the general manager of the Pan-American Railway, as stating that extension work on the line would now be continued actively until connection with the Guatemala railway is completed. He is also resuming negotiations looking toward the beginning of construction on the new railroad which is to cross from the Gulf of Tehuantepec to the town of Campeche, connecting the Pan-American and the united railways of Yucatan.

CANADA.

PLANS OF NEW GRAND TRUNK LINE FOR CITY AND TOWN BUILDING.

Consul A. G. Seyfert, in writing from Collingwood that the crowning work of the first decade of the twentieth century for Canada will be the completion of the Dominion's second transcontinental railway, gives the following account of the progress of this enterprise:

From Winnipeg to Edmonton the prairie section of the Grand Trunk Pacific is practically completed. From Edmonton to the coast, a distance of 700 miles, through the mountains, it will take three years more to finish. The work is exceedingly difficult and expensive, much of it being between mountain passes and along the gorges of the Skeena River.

Experience of the past has led the railway company to deal with great care about the future town sites along the new road. The company proposes to control as much as possible, not only the location of the sites for the towns, but also the laying out and building of the future cities. On the prairie section nearly a hundred of these sites have been located, and all but a few on the north side of the railway. The main street of each town is to run at right angles with the track of the main line. All the lots are rectangular blocks. Parallel with the railway and adjoining the depot right of way, a long strip of land 100 feet wide has been reserved by the company at each town site for the purpose of planting trees and shrubs to beautify the town.

The company will also impose building restrictions in all the towns. Along the main street and on the avenues close to the station on a given area no buildings will be allowed to cost less than $1,000. No shops, livery stables, or other noisy and disagreeable businesses will be allowed near the station. All such will be grouped in one block in a place convenient to the town.

PACIFIC HARBOR ADVANTAGES.

Prince Rupert, the Pacific terminal of the Grand Trunk Pacific, is an *island. The town* is to be built on the slope of a mountain, whose

grade begins a few hundred yards back from the shore line. It is alleged that for a harbor Prince Rupert has no equal on the Pacific coast. It is sheltered; its approaches are easy and free from all impediments of navigation. The harbor is 1 to 1½ miles wide and extends inland a distance of 10 miles. Prince Rupert is the most exclusive place on the coast. People who have no business there are not allowed to land. The future city is not yet ready to receive any one unless he is directly connected with the railway company. The government and the Grand Trunk Pacific own all the water front, and no arrangements are completed for placing any property on the market. It is, however, announced semi-officially that the sale will take place in September next.

The promoters of Prince Rupert expect the town to become a great factor in the Pacific commerce. They predict that in a quarter of a century it will be one of the leading seaports on the Pacific Ocean. Prince Rupert will be a day and a half nearer the Orient than Vancouver, and the steamship concern now allied to the Grand Trunk Railway System has announced that the moment the transcontinental line is completed it is ready to inaugurate a Prince Rupert-Hongkong steamship service across the Pacific.

KOREA.

AMERICAN LOCOMOTIVES, RAILS, AND ROLLING STOCK IN USE.

Consul-General Thomas Sammons, of Seoul, furnishes the following information concerning the railways of Korea and the amount of American railway stock in use there:

Railway material valued at $2,192,779 was imported into Korea during 1907. Of this total it is estimated that the United States contributed direct $750,000, and through oriental ports an additional amount. The Japanese Residency General Railway Bureau, which has charge of the steam transportation facilities of the Empire, places the importation of steel rails from the United States as follows: 1906, 50 miles; 1907, 100 miles; 1908, 100 miles. These are all 75-pound rails, and the total importations from the United States are placed at 32,448 tons. During 1907, 60 spans of iron girders were imported from the United States by the railway bureau, aggregating about 1,300 tons.

AMERICAN LOCOMOTIVES AND OTHER ROLLING STOCK.

The principal railway line in Korea extends from Fusan, on the south, to New Wiju, on the Yalu River, on the north. This line is of the standard American gage, and all the 107 locomotives now in use were imported from the United States. A tabulated statement may serve to illustrate the amount of rolling stock that has been imported from the United States:

Description.	Total in use.	American.
	Number.	*Number.*
Locomotives	107	107
Passenger cars	158	90
Freight cars	961	538

The heavier locomotives are of the six and eight wheel coupled-tender patterns. The lighter ones are of the six-wheel couple-tank variety.

PASSENGER RATES AND PASSENGER SERVICE.

The third-class passenger fares per mile are graded as follows: Up to 50 miles, 1½ cents; 50 to 100 miles, 1¼ cents; 100 to 200 miles, 1 cent; 201 to 300 miles, ¾ cent; 301 miles and upwards, ½ cent.

Passenger fares are applied to each section according to these rates, but the second and first class rates are 75 and 150 per cent, respectively, greater than the third-class charges. For example:

Stations.	First class.	Second class.	Third class.
Fusan to Seoul	$7.35	$5.24	$2.94
Seoul to New Wiju	7.97	5.58	3.19
Fusan to New Wiju	11.34	7.94	4.53

Commutation tickets are issued and parties of over 20 are carried at 50 per cent discount, and round-trip tickets are reduced 20 per cent.

Beginning with April 1, 1908, on which date Tokyo time was discarded by the Japanese protectorate and standard time adopted, through passenger trains are being operated on the Fusan-New Wiju line. These through trains traverse the entire length of the peninsula, approximately 600 miles, in twenty-six and one-half hours. Heretofore three days were required, the journey being broken at night at Seoul and Pyeng Yang. The through trains are provided with dining cars (a la carte service), first and second class coaches, guide conductors, and train boys. Sleeping cars will also be added to these trains in the near future.

Heretofore the ferry steamers plying between the end of the Korean peninsula at Fusan and Shimonosaki and Moji, in Japan, have left the latter ports and Fusan, the southern terminus of the Seoul-Fusan line, at night and connected with the rail lines each morning at both Fusan, for Korean points, and Shimonosaki and Moji for points north, east, and south in Japan. With the new night trains in Korea a double ferry steamer service has been inaugurated.

TO CHINA AND EUROPE VIA KOREA AND MANCHURIA.

Americans were the first to build railways in Korea, starting with the Seoul-Chemulpo line. American material was then introduced, and the American standard gage was adopted. With the standard gage on the Japanese-controlled lines in southern Manchuria and also on the Chinese railway lines, a private car may in the future be transported throughout the principal sections of Korea and China. With the Antung-Mukden military line replaced with the standard gage, and with the grades and curves reduced, a through service from Fusan to Peking and Hankow on the Yangtze River will be possible. Also, with an improved service from Antung to Mukden, the quickest route from Japan and Korea to Chinese interior points and to Europe via the Trans-Siberian route will be over the Korean-Manchurian lines.

At Seoul an electric street-railway service, under American management, has been in operation for several years. A railway to connect Gensan (Wunsan) on the east coast of Korea with either Seoul or Pyeng Yang is projected.

CHINA.

LOAN FOR BUILDING THE SHANGHAI-HANGCHOW-NINGPO RAILWAY.

The following information is derived from a newspaper extract transmitted by Consul-General Charles Denby, of Shanghai, covering the terms of an agreement between the Chinese Government and the British-Chinese Corporation by which the latter is to raise a loan to be devoted to the construction of the Shanghai-Hangchow-Ningpo Railway:

The terminus of the line will be connected with that of the Shanghai-Nanking Railway in Shanghai or its vicinity, whence it will run to Hangchow and Ningpo, via Fungchingtsun, Kiashingfu, Hushu, Hangchowfu, and Kiangkau. The road is to be completed within three years.

The amount of the loan to be raised is £1,500,000 ($7,299,750), the interest on which will be 5 per cent per annum, to be paid by the Chinese Government semi-annually. The loan will be applied to the building of the line alone, including payment for locomotives, carriages, and all necessary equipment, and the running expenses before the completion of the line. Money to be used in buying land and paying interest must be provided by the Chinese Government from other sources.

During the construction of the railway the corporation shall be allowed to act as managers for the provision of all materials which must be procured in foreign countries for the railway. The corporation shall purchase all materials required in the open market at the lowest price obtainable, but it is understood that all such materials shall be good and of satisfactory quality. If English-made materials are equal in quality and price with those of other countries, all the necessary materials shall be purchased in England. If any Chinese products or Chinese-made materials are equal in price and quality to those produced or manufactured in foreign countries, such products or materials shall be purchased in China in order to encourage Chinese industry.

It is stipulated that several sections of the line shall be constructed by the Chinese and, therefore, the work of prospecting and surveying will only be undertaken with the permission of the board of posts and communications. [The full agreement is on file in the Bureau of Manufactures.]

COMPLETION OF THE SHANGHAI-NANKING RAILWAY.

Consul-General Denby also advises that the Shanghai-Nanking Railway, concerning which he recently gave an account of an initial trip, has now been completed, adding:

The formal opening of the line was celebrated on March 28 by an excursion from Shanghai to Nanking. It was opened to business traffic during April. The line, 193 miles in length, was traversed in five hours and thirty-seven minutes. Nanking, Chinkiang, and the intervening markets are thus put into easy communication with Shanghai, and the effect will be to improve trade. When the Tientsin-Pukow (opposite Nanking) Railway is completed Shanghai will be in direct rail communication with North China, and it will be possible to reach Tientsin and Peking in about forty hours. To go to Peking by rail at present it is necessary to make a three days' journey by river steamer to Hankow and there to proceed by the Peking-Hankow Railroad, a journey of thirty hours additional.

NEW MANCHURIAN LINE.

ENGINEERS FINISH PLANS FOR KIRIN-KUANGCHENGTZU RAILROAD.

Consul-General Willard D. Straight forwards from Mukden the following translation of an article appearing in the local Chino-Japanese journal regarding the proposed railway between Kirin and

Kuangchengtzu (Chang-chun). The facts, he is informed, are correct:

The engineers appointed to survey the Changchun and Kirin railway route, namely, Taot'ai Lo Kuo-jui and Mr. Yu Chenliang (Japanese), having finished their survey, arrived back in Mukden a few days ago and are at present engaged in drawing plans for the construction of the line. These plans, we hear, are almost finished, and on their completion the two engineers will confer as to the details of the scheme, which will then be submitted to the Wai Wu Pu and the Japanese minister at Peking, so that they may be in a position to sign an agreement for the undertaking.

According to our information, the following is roughly the line of the route to be taken: Starting from the north wall of Changchun, the line will pass to the south of Shihlipu, Matoushan, and Chuanyuanhou, and reach a point 25 English miles south of the present main road. In the neighborhood of the Tashui River it will cross the main road at right angles and will then sweep round the Laoyehling to the north, and, passing through Santaolingtzu and Erhtaolingtzu, be brought to the northern gate of Kirin city, whence it will be extended to Lienhuapao.

The line will be 75 English miles in length, and the cost of construction approximately $7,000,000, or that many yen (50 cents), as the text is uncertain. The station outside the northern gate will be for passengers only, and the station at Lienhuapao for the discharge and loading of cargo. We have further heard that after the contract has been signed at Peking, a further survey will be necessary in the autumn of this year before the work of construction is commenced; this will take two or three months, so that in all probability work will not be begun on the line until the spring of 1909. It will take about one year to finish the construction.

ARABIA.

HEDJAS ROUTE OPENED TO MEDINA—THE MECCA EXTENSION.

The following telegram, taken from Levantine newspapers, by Consul-General G. Bie Ravndal, of Beirut, has been sent by the Ottoman Imperial Chancellery to all the provinces of Turkey:

As already announced in the newspapers of Constantinople, the Hedjaz Railway will reach the town of Medina in the month of June. On September 1, the anniversary of the accession to the throne of the Sultan, will take place the inauguration of the mosque near the station at Medina, of the water supply from Ain Elzerk, and of the railway line. The railway, as far as completed, has a total length of 1,500 kilometers (932 miles), including the branch to Haifa; the stations, being all built of stone, and the workshops all constructed in less than six years.

All the work done up to the present has involved an expenditure of 3,500,000 Turkish lire ($15,400,000). In order to meet the expenses necessary to commence the work between the two cities of Medina and Mecca, it is necessary to order a large quantity of material in Europe. As far as Medina all the material is paid for, but for the continuation of the line to Mecca only 10 per cent has been paid.

BRITISH INDIA.

STATISTICS COVERING THE OPERATIONS ON THE VARIOUS LINES.

Consul-General William H. Michael, of Calcutta, reports that at the close of 1906 there were 29,097 miles of railway in British India, on which $1,264,024,333 had been expended, and which were yielding annually $73,699,097 net. During the year 1906, 271,063,000 passengers were carried and 58,849,000 tons of freight were hauled. In 1907 21,850 miles of railway were owned by the state, 3,471 miles by native states, and 3,982 miles by private companies. In 1906 the railway employees numbered 479,284, of whom 6,850 were Europeans, 9,326 Eurasians, and 463,108 Indians.

UNITED KINGDOM.

OPERATING RETURNS OF BRITISH LINES FOR LAST YEAR.

Consul-General Robert J. Wynne, of London, reports that figures concerning the railways of the United Kingdom are printed in a White paper recently issued by the British Board of Trade. A summary for 1907 follows:

The authorized capital was $6,784,767,237, of which $6,300,277,963 represented paid up capital. The net receipts for 1907 amounted to $218,379,821, being the difference between the following totals:

Gross receipts:		Working expenditure:	
Passengers and mails	$248,050,371	Maintenance of ways, works, etc.	$54,821,122
Goods traffic	297,815,200	Locomotive power	104,873,075
Steamboats, canals, harbors, etc.	24,512,560	Repairs and renewals of rolling stock	30,323,161
Miscellaneous	21,086,544	Traffic expenses	106,235,195
		Rates and taxes	23,665,789
		Miscellaneous	53,166,512
Total gross receipts	591,464,675	Total expenditures	373,084,854

The length of the lines was 23,101 miles, over which was transported 407,710,000 tons of minerals and 108,261,000 tons of merchandise. The passengers conveyed numbered 1,260,117,000, of which 33,355,000 were first-class, 36,697,000 second-class, 1,189,349,000 third-class, and 716,000 were season passengers.

The paid-up capital has advanced since 1905 by $107,165,513, and amounted to $6,300,277,963 in 1907, or roughly, $5 for every passenger carried. Passengers increased in the same period by 60,431,858. In the third class the increase was 79,324,648, but there were 3,059,492 fewer first-class and 15,886,258 fewer second-class passengers.

SWITZERLAND.

INCREASE IN RECEIPTS, EXPENDITURES, AND NET PROFITS.

Consul-General S. C. McFarland, of St. Gall, furnishes the following information concerning the financial operation of the Swiss Government railways in 1907:

The annual report of the Swiss Government Railway Directory for 1907, covering the operation of about 1,554 miles of government-owned, broad-gage, main-line railroads (about 560 miles of track, including narrow-gage, cog, and wire-rope enterprises, being still under corporate or private ownership but subject to governmental control), gives the following figures: Total receipts, $27,586,453; total expenditures, $18,614,924; operating profit, $8,971,529.

Corresponding figures for 1906 were $25,637,651, $16,869,725, and $8,767,926. The report congratulates the country upon the favorable showing made, considering the excellent, cheap, and nondiscriminating character of the passenger and freight service rendered, but anticipates a dull current year, owing somewhat to the effect of the American financial disturbance upon Swiss industries. The report emphasizes the steady growth of operating expenses, accounted for by higher wages and shorter hours for employees and the increased cost of supplies, notably fuel and metal. Thirty-seven extensions or connections were under course of construction in 1907, involving mountain tunneling of 33 miles, and the construction of bridges, including *those only of* 30 feet or more in length, 4½ miles

DENMARK.

CONSTRUCTION OF VARIOUS STATE AND PRIVATE LINES SANCTIONED.

A London journal publishes a report from Copenhagen that the Folkething had definitely adopted the bill, already passed by the Landsthing, providing for the construction of new Danish railways.

The latter comprise the doubling of the line through Fuenen, five state railways, including a line from Copenhagen to Kjoege, which will considerably shorten the international route via Gjedser, and 51 private railways, concessions for four of which may be granted annually. The expenditure to be incurred by the state treasury is estimated at 56,000,000 crowns (about $15,000,000), spread over 16 years.

During the final debate on the bill the minister of public works announced that a bill would be introduced next session providing for the building of a bridge over the Masnedsund, between Zealand and Falster, to take the place of the present steam ferry, whereby the international route via Gjedser would be still further improved. The cost of the bridge is estimated at 19,000,000 crowns (about $5,000,000.

RAILWAY BRAKE SHOES.

MODERN AMERICAN ARTICLE NEEDED ON BRITISH RAILWAYS.

Mr. William Whittam, jr., formerly a special agent of the Department of Commerce and Labor, offers suggestions for the introduction into Great Britain of the quickly exchanged brake shoes made in the United States. As to their usefulness he writes:

Railroads in the United States have neglected no opportunity to secure every means for economizing in rolling stock. The good and effective work done by their Master Car Builders' Association can not be overlooked. With active committees that watch closely development of every kind, supported by the manufacturers of railway material, who specialize in every direction, they have largely succeeded in bringing about a much-desired reduction in the annual expenditures of railroads. Concentration of efforts have established standards for material.

The ever-increasing speeds and loads on railways necessitated a thorough investigation of the brake-shoe equipment, for which millions of dollars are annually expended. In this feature a splendid system has been developed, its simplicity showing at a glance its advantages, of which I recently witnessed a striking illustration. An engineer on one of the largest railways in the States was just about ready to pull out of the yard. Before doing so, he once more made an examination of his engine to make certain that everything was in running order. Happening to glance at one of the brake shoes on the drivers of his locomotive and seeing that it was nearly worn to the limit, he decided to replace it by a new one. Although there was scarcely a minute's time to spare, he accomplished the change in even half the time. This fact, and a scrutinizing of the worn-out brake shoe he threw away, which was a mere shell, aroused my interest in the brake-shoe industry.

OUTPUT AND UTILITY OF THE SHOES.

Obtaining an introduction to the manufacturers of this material, I found that the manufacture of their product, as well as of their means of providing railways with brake shoes especially suited for the conditions of the various services, was of considerable magnitude. The output of one of the manufacturing plants was close to 125 tons per day. A careful study of the iron used in their product is made in a well-equipped laboratory. There are special departments which cover certain requirements in the production of these shoes and which have minute attention in order to furnish the railroads with the best brake-shoe material at the lowest cost, which is fully appreciated and recognized among American railroad interests.

The time taken in replacing a worn-out brake shoe in the United States is only a part of a minute, while the changing of a brake in Europe takes many minutes. Altogether, there would seem to be an excellent opening for American enterprise in this direction. It is clear that a wonderful opportunity exists in Great Britain and Europe for the export of the American type of brake shoe. In Europe the solid shoe is common, yet this type became practically obsolete in the United States many years ago. With this solid shoe a waste of 15 to 20 pounds of material occurs, against a "scrapping" of but 6 to 7 pounds on the American plan.

BRITISH TRAVELING INFORMATION.

RAILWAYS POST SCALE MAPS AT STATIONS WHICH DESCRIBE THE COUNTRY.

Consul J. Perry Worden, writing from Bristol, describes a new form of railway advertising to aid travelers in England:

It has long been the custom of English railways to display in the stations and inside of the railway coaches a large and varied selection of pictures, usually photographs, showing the scenic attractions of their respective lines. So acceptable have these proved to the public, and to such an extent has it undoubtedly contributed to increased travel, that the Midland Railway of England has recently introduced still another feature, designed to inform the traveler and to assist him in determining his routes.

Fixed in frames in the booking hall or passage where the ticket offices are located, or in some equally convenient place, are large ordnance maps of the neighboring country, drawn to the scale of 1 inch to the mile. Each map is composed of 1-inch ordnance sheets, the entire area covered being 24 miles from north to south and 36 miles from east to west, thus giving some 864 square miles of territory in detail. The maps are of the contour series, so that it is quite possible for intelligent travelers to locate the hills and dales on the route. In most cases there is a note on the map indicating the exact height above sea level (ordnance datum) of the railway tracts at the particular stations.

These maps are attracting much attention, since they are not only serviceable to persons traveling by the railways, but are often of equal value to cyclists and even pedestrians. Cyclists, in particular, frequently get their data for a trip from these new advertising maps, often proceeding part of the way on their bicycles *before* continuing or *returning by the* railway trains.

OCEAN STEAMSHIP LINES.

FRANCE.

FACTS CONCERNING AN AMERICAN STEAMSHIP LINE TO FRANCE.

In reply to an inquiry from a leading society in Boston as to the prospects for a line of steamers between that city and France, Consul-General Robert P. Skinner, of Marseille, writes as follows:

The total weight of merchandise imported into and exported from France in 1906, was as follows, in metric tons:

Principal ports.	Imports.	Exports.	Principal ports.	Imports.	Exports.
Marseille	3,264,246	2,316,420	Bordeaux	1,695,631	789,280
Rouen	3,045,438	275,584	All other	21,883,340	9,812,566
Dunkirk	2,338,960	573,353			
Havre	2,127,642	794,373	Total	34,355,257	14,561,576

The French customs furnish the following figures relative to the weight and value of merchandise imported from and exported to the United States for the last three years: [The values are mere estimates, said by Consul-General Mason to be of no statistical value, and vary widely from the official figures of the United States.—Bureau of Manufactures.]

Year.	Weight of merchandise.			Value of merchandise.		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
	Metric tons.	*Metric tons.*	*Metric tons.*			
1905	998,683	53,993	1,052,676	$98,868,882	$56,909,138	$155,778,020
1906	1,131,278	66,425	1,197,703	113,463,156	77,602,598	191,065,754
1907	1,096,436	80,361	1,176,797	122,054,551	77,593,141	199,647,692

FRANCO-AMERICAN STEAMSHIP SERVICE.

For the handling of Franco-American traffic, of which the portion exported goes very largely to New York, lines of steamers now exist, and provide regular sailings from Marseille, Havre, and Bordeaux. The Havre line (Compagnie Générale Transatlantique) receives a heavy postal subsidy, and depends upon this and upon the passenger traffic, as the freight-carrying capacity of the fast steamers is not great. The other lines operating between French and American ports are chiefly freight carriers, but such as are under the French flag also receive premiums from the state, and the Fabre line from Marseille is maintained, as far as west-bound traffic is concerned, by emigration to the United States.

In 1906 an all-American line was projected between Marseille and New York, and one steamer was purchased and put into commission with the hope that the frequently asserted inability of the American flag to compete, without artificial aid, would be this time controverted. After three round trips had been made, and no additional capital in the meantime having come forward to purchase additional ships, this steamer was withdrawn, and the experiment abandoned. During a long experience in Marseille, I know of but one small sailing ship under the American flag that has visited this port, with the exception noted.

It costs a great deal more to operate American than European ships, and were *this otherwise* the capital ventured in a line of modest

proportions might well be intimidated by the completely organized foreign enterprises now handling the world's traffic. Steamers are operated in great fleets, with ports of call visited at regular intervals, and the through bill of lading is coming into more and more general use. The increasing number of German vessels in Marseille illustrates what is being done. In 1895 German shipping tonnage entered and cleared at Marseille was only 129,698 tons; it had increased to 170,853 tons by 1900; in 1906 it amounted to 941,192 tons, representing a network of lines in every direction owned by the two great German companies or their subsidiaries. In 1906 the total shipping tonnage of Marseille was 15,930,939 tons, and it is probable that not more than 2,000,000 tons were represented by tramp ships, and many of these were time chartered by firms who thus improvised lines of their own.

American shipowners can not afford to feel their way toward success on a small scale, and still less can they afford to do so under existing conditions. We are unlikely to see a great American commercial fleet in European waters until the standard American wage has been reduced to the European level or until we find some means which will make up the difference, backed up by sufficient guaranty that this means can be depended on as long as it shall be needed.

The geographical situation of the United States compels most American navigation lines to depend upon traffic between the port of departure and port of arrival, and when any great difference in the bulk of merchandise imported and exported exists freight rates must be averaged to get back operating cost. European sea powers are much more favorably located in this respect than the United States. The great English lines to the Orient, for example, sail from London, and call at Marseille, sometimes Naples, Port Said, Aden, and half a dozen or more East Indian and oriental ports, discharging and receiving freight, thus managing to keep the vessels' holds full more or less all the time.

NANTES-AMERICAN TRADE.

DISAPPEARANCE OF THE AMERICAN FLAG FROM THE LOIRE.

Consul Louis Goldschmid writes as follows concerning the decadence of American shipping in the trade of Nantes:

Since 1901 not an American vessel has entered this French port. It is painful to consider the lack of American shipping—the complete absence of the American flag from the Loire. Efforts have been made from time to time by local merchants and shipowners to revive some of the traffic of the past, but American shipping companies have nearly always shown indifference in the matter. Whatever American cargo arrives here comes here in French or other foreign bottoms. There are several reasons for the changes that have taken place. Nantes was formerly one of the principal ports doing business with the United States and before the advent of steamships had a steady trade therewith. This trade has in a measure gone elsewhere, but Nantes (including St. Nazaire) continues to be a great port of imports and exports for the West Indies and South and Central America.

SWEDEN.

DIRECT LINE BETWEEN GOTHENBURG AND NEW YORK.

Consul William Henry Robertson, of Gothenburg, advises that although the question of organizing a direct line of freight and passenger steamers of a modern type between Gothenburg and New York is one that has received earnest consideration there from time to time in the past, special attention has been given to it in the local press and otherwise during the last few weeks. The consul continues:

A Swedish shipowner has laid a plan before the Swedish Government for a subsidy of 7,000,000 kroner ($1,876,000), to be repaid in installments beginning five years hence, and a subsidy of 1,000,000 kroner ($268,000) per year for carrying the mails. From the standpoint of United States trade, it holds out splendid possibilities and advantages. Both our exporters and importers know only too well the great expenses and delays incident to the transshipment of all goods in the Swedish-American trade at English, German, Danish, or Norwegian ports. Many an American exporter, instead of wasting a month or six weeks at a summer resort, could for practically the same outlay take a delightful sea trip to an interesting country like Sweden, study the possibilities of his business there, establish valuable agencies, and return within about the same time. During the five months that I have been in charge of this consulate, at the second largest city in Sweden and decidedly the largest export center, I have never even heard of an American business man being in town.

TRINIDAD.

STATISTICS SHOW GROWTH OF TRAFFIC AT PORT OF SPAIN.

In reporting that there was a substantial increase in the shipping at Port of Spain, Trinidad, during the year 1907, Consul William W. Handley writes:

The total number of vessels arriving amounted to 2,461, being 281 more than during the previous year. The tonnage reached 1,225,994 tons, an increase of 262,560 tons over 1906. Among the 626 merchant steamships entered during that period, 334 flew the British flag, 61 Dutch, 48 French, 35 German, 22 Norwegian, 94 Venezuelan, and only 7 American, and of these 7 steamers flying our flag 5 were colliers of the Atlantic fleet. Among the 1,798 sailing vessels that entered this port, 1,416 were small Venezuelan sloops that carry on an extensive trade between this island and Venezuela. There were also 338 British and 13 American sailing vessels entered here. The latter bring out lumber, and generally secure a return cargo of cocoanuts or asphalt.

Year after year this port increases in importance as a rendezvous for foreign war ships, due principally to the tranquillity of the waters of the Gulf of Paria as a coaling and cable station, as a center of steamship communication, and as possessing a floating dock.

CHILE.

BETTER STEAMSHIP SERVICE PLANNED TO VALPARAISO.

Vice-Consul Stuart K. Lupton, of Valparaiso, reports that the two steamship companies with headquarters at Valparaiso, the Pacific Steam Navigation Company and the South American Steamship Company, are contemplating the idea of a twelve-day service between Valparaiso and Panama, adding:

The plan is to send the Atlantic vessels of the Pacific Company, whose itinerary has been between English ports and Valparaiso, on to Callao, with a possible stop at Iquique. At Callao mails and passengers will be transferred to one of the regular west coast liners, which will call at Payta, Peru, and at Puna, the port for Guayaquil, only. This will avoid the delay incident upon calling at some twenty small ports on the coast of Chile and Peru. If there is no hitch in the programme, the new service will begin some time in September or October.

MEXICO.

SMALL NUMBER OF AMERICAN VESSELS ARRIVING AT TAMPICO.

Consul P. Merrill Griffith reports that of the 522 vessels arriving at the Mexican port of Tampico during 1907 only 23 were American. English ships numbered 176, Mexican 115, Norwegian 95, German 53, Cuban 31, Danish 13, and French 12. The consul adds that the number of American vessels reported represents only a small percentage of the amount of American tonnage, as a great many vessels flying the flags of many nations and entering at Tampico call at ports of the United States.

JAPAN.

TOTAL EXPENDITURE FOR THE EMPIRE'S SHIPPING SUBSIDIES.

Consul Hunter Sharp forwards from Kobe Japanese newspaper extracts referring to the Empire's shipping subsidies, from which the following is taken:

At a recent meeting of the Oriental Society at Tokyo the manager of the Japan Shipowners' Association stated that for the current year the subsidy absorbs 60 per cent of the estimated revenue from the business tax and 47 per cent of the income tax. The total expenditure is $6,595,000 gold, and a like amount is included in the present budget.

CHINA.

MEASURING CARGO AT SHANGHAI FOR EUROPE.

Consul-General Charles Denby reports that the shippers of Shanghai have been notified by the representatives of twelve steamship companies at that port that in future the measuring of cargo to be shipped on their vessels for Europe shall be done by a sworn measurer who has arrived from Europe for that purpose. This movement is to place the measuring of such cargo upon a more satisfactory basis than has hitherto existed.

BRAZILIAN DRY DOCK.

WORK COMMENCING ON LARGE SHIP REPAIR STATION AT RIO DE JANEIRO.

Consul-General George E. Anderson writes, from Rio de Janeiro, that as a part of its new naval policy, which has taken the form of three of the largest battle ships now building, the Federal Government in Brazil has made arrangements for the construction of the largest dry dock in South America, a description of which follows:

This dock is to be available for merchant vessels as well as war ships and is a most important step in maritime development in South America. The dock is to be secured by a reconstruction of the Mortona dock, owned by the Government of Brazil and used until recently by the Lloyd Brazileiro for its merchant ships. The old dock is to be widened and deepened much along its present lines on the water front of Rio de Janeiro adjoining the new commercial wharves or docks. By the plans finally adopted 100,000 cubic meters of rock will be excavated from the bottom, sides, and land end until the dock will have a total inside length great enough to admit a vessel 250 meters, or about 815 feet. It is to be divided into three sections—one 150 meters, one 70 meters, and the third 30 meters, so that 3 vessels of proper size can be handled at the same time.

The dock is to be fitted with all the latest appliances, both with respect to naval and merchant vessel needs. Inasmuch as it will afford necessary conveniences for the docking and repair of vessels up to 15,000 to 16,000 tons, it is a distinct advancement in South American shipping. The work on the dock will be under Government auspices. It is to be commenced at once and will be completed in two years. The largest merchant vessels now making regular runs to this port is less than 12,000 gross tonnage, hence the dock is well ahead of commercial requirements.

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PUBLIC WORKS IN MADAGASCAR.

PROPOSED NAVIGATION, IRRIGATION, AND RAILWAY EXTENSIONS.

The following information concerning public improvements in Madagascar is furnished by Consul James G. Carter, of Tamatave:

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HOW LANDS enefit which will accrue from mak-

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and at the same time supplying a flow of water sufficient for the irrigation of the rice fields south of Tananariva.

Twenty-two miles of new line have been opened to traffic between Anjiro and Moromanga, on the railway from Tananariva to Tamatave. The unfinished distance between Anjiro and Tananariva, 49 miles, is served by government automobiles. There are now 114 miles of this government railway in operation between Anjiro and Brickaville; the later place is 94 miles from Tamatave, and the service between the two places is effected by 7 miles of railway from Tamatave to Ivandroo, and from Ivandroo by the steamers of the Compagnie des Messageries Françaises de Madagascar.

According to the Journal Official of the colony of Madagascar a canal has been opened between Vatomandry and Marosika, about 22 miles apart on the east coast of Madagascar. The canal is effected by the joining of a number of lagoons, situated in the interior and will serve as a means of transport for the natives to bring their produce to Vatomandry, which is one of the important ports on the east coast of the island.

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INDUSTRIES.

CONDITIONS AND PRODUCTS.

COLOMBIA.

INVESTMENT OF AMERICAN CAPITAL WOULD ENLARGE OUR TRADE.

Consul Isaac A. Manning, of Cartagena, furnishes the following information relative to the undeveloped resources of Colombia and the opportunities now offering for the investment of foreign capital in that country:

President Reyes, during his recent visit to the Atlantic coast, set forth many ideas as to the future of Colombia, some of which seem to offer excellent opportunities for the investment of American capital, and, therefore, for the extension of American trade.

President Reyes has called the attention of the people to the opportunities for the cultivation of bananas and other marketable fruits, of cotton, tobacco, and sugar cane; for the development of manufactures, especially of cotton, leather goods, tobacco, and sugar; for the exploitation of the mineral resources of the country, as yet relatively dormant.

MINERAL AND FRUIT RESOURCES.

The President declares that reports have been made to him of the mineral wealth of the Antioquia and Cauca districts which satisfy him that there is much highly productive ground of a placer character yet untouched; that quartz deposits are to be found all over these departments which will in time develop into veritable high-grade paying mines. Many new mines are being opened and developed in these regions, and yet there is ground for countless more. These are not "poor man" propositions, but opportunities for investment of capital.

In the development of the banana industry President Reyes is paying especial attention to the district of Santa Marta, at the base of the Sierra Nevada Mountains, although there is much other good banana land in many parts of the Atlantic coast.

The valleys of the rivers Leon and Atrato have long been recognized as having proper characteristics for the cultivation of this fruit. On the Sinu River there is also much good banana land, as well as land proper for the cultivation of oranges, pineapples, alligator pears, and many other tropical products. This is the great cattle belt, as it is also the source of the cedar and mahogany exported from Colombia. In this valley are both coal and petroleum awaiting capital for their development.

HOW LANDS MAY BE ACQUIRED.

In the Leon and Atrato district lands can be had under concession from the Government. The purchaser may select and denounce the

land by paying the expenses of measurement; or land may be had by purchase of land scrip, granted under previous concessions, for a few cents per hectare (2.471 acres). The lands of this region are said to be very fertile, and a small expenditure in dredging the mouths of the rivers Leon and Atrato would make those rivers navigable for fruit ships for many miles into the interior.

There are transportation routes awaiting development which would pay—routes which would develop districts rich in mineral and agricultural possibilities, which are idle and abandoned for lack of transportation facilities. There is no doubt that one of the greatest helps in advancing American trade in Latin America is the presence of American capital in the industries of these countries.

CARIBBEAN COAST RAILWAY.

Among the important proposals made by President Reyes recently was one suggesting the construction of a railway to connect with the Cartagena (Colombia) Railway leading southward parallel to the Caribbean coast, passing through Sincerin, where the new sugar manufactory is being erected, to the town of Tolu on the Gulf of Morrosquillo. This route would open to transportation one of the richest agricultural territories of the hot zone of Colombia, a territory which has produced 11,000,000 pounds of tobacco for export during the past two years, many thousand cattle, much rice and cotton, and which, in an expanse of 98,840 acres of land tributary thereto, could be made to produce great quantities of sugar, bananas, and almost every kind of tropical fruit. The land is generally level, exceedingly fertile, and well watered—an important feature in tropical agriculture. Coal, iron, and petroleum are known to exist near the suggested route, while mahogany, Spanish cedar, and other valuable timber, as well as rubber, are found near thereto.

At Sincerin a sugar factory will, within a few months, begin grinding the cane from 3,000 acres now planted, the first harvest of which is expected to produce 12,000 metric tons, or 265,000 bags of sugar. There are 1,300 men engaged in the work of installation of the sugar plant and extending the cane plantation. The establishment of other factories of this character only await transportation.

This proposed railway would in time, according to the hopes of President Reyes, be a branch of a grand transcontinental system leading from Santa Marta on the northeast to Colon at the mouth of the Panama Canal.

CANALIZATION OF THE DIKE.

The Government of Colombia and the commercial interests of Cartagena are again considering the dredging and reopening to traffic of the dike or canal leading from the Magdalena River at Calamar to the opening into the bay of Cartagena, with a view to reestablishing direct steamboat connection between this port and the ports of the Magdalena.

The first improvement of this dike was in 1726, but in 1734 it had began to fill up again, when the King of Spain had it reopened at the expense of the former contractor. In 1844 an American engineer took a contract for its excavation and opening, with a view to steamboat traffic, and in 1848 he had completed its canalization, and its opening was publicly celebrated.

It was kept pretty free from obstructions until 1892 or 1893, since when it has been neglected. Among the greatest obstructions to its easy navigation are the great beds of wild hyacinths, which at times almost cover its surface. Another difficulty is its tortuous character, causing steamers much delay.

The idea of dredging this channel has been frequently mooted of late years, but a prominent American engineer who recently passed through its entire length states that straightening the canal in many places would be necessary to make it a practicable waterway for rapid transportation. This, he thinks, would require considerable expenditure, but once done and the channel dredged and cleared of the drift and the hyacinths which foul a steamer's wheel, it would be a valuable connection of the Magdalena and Cauca river transportation routes.

Such a work carried to conclusion would open up a rich bed of agricultural lands along the Magdalena River to the cultivation of bananas and other tropical products requiring quick dispatch and few handlings to keep them in merchantable state for export.

SWITZERLAND.

SERIOUS DEPRESSION IN THE WATCH-CASE INDUSTRY.

Consul R. E. Mansfield writes from Lucerne that, although Switzerland has not yet been seriously affected by the general business depression that has made itself felt throughout Europe since the beginning of the present year, some branches of industry in the confederation are now beginning to complain of the lack of export orders and a serious decrease in trade. In stating that this is especially true in the manufacture of watch cases, he says:

Watch cases constitute an important branch of Swiss industry. It is claimed by some manufacturers that the present falling off in the watch trade is due to the law of compensation in commerce, which shows that a period of unusual prosperity in business, such as has been experienced in recent years, is invariably followed by a depression, and not infrequently by strikes and a general crisis.

But the great decrease in the production of watch cases in Switzerland for the first four months of 1908, as compared with the corresponding period in 1907, would indicate that there are special, rather than general, reasons for the present depressed condition in that particular branch of industry. The figures in the following table show the number of watch cases in silver and gold produced in Switzerland during the four-month periods mentioned:

Month.	1907.	1908.	Per cent decrease.
	Pieces.	*Pieces.*	
January	327,622	221,050	32.5
February	329,162	244,562	25.7
March	345,675	220,677	36.2
April	335,367	211,634	37.0
Total	1,337,826	897,923	32.9

These figures show a decrease in production of nearly a half million cases for the first four months of the year. It is estimated that there was a like decrease in the number of steel and other metal watch

cases other than gold and silver, as the last named are the only kinds registered and stamped, and consequently the only classes concerning which the Government keeps a record.

So serious is the depression becoming in some of the Cantons where the watchmaking industry is large that a general crisis and threatened strikes are imminent. In some instances the Cantonal governments have lent assistance to the local industries in order to give employment to the people in the factories.

DEPENDENCE ON MANUFACTURING—EXPORT COMPETITION.

A general industrial depression in Switzerland produces a more serious situation than a similar condition does in some other countries. A large per cent of the territory comprising the Confederation is mountainous, which, together with a sterility of soil, renders much of the country nonproductive. Because of these naturally unfavorable conditions, the Swiss people have directed their energies to industrial pursuits, which furnish the basis for the general commercial stability of the country.

The watchmakers' trade, or guild, is one of the oldest in the Confederation, and Swiss watches have a world-wide reputation. They represent various styles and grades, the enameled cases being especially popular for export trade. In looking for specific causes for the present crisis in the watch industry, the fact that other countries, including the United States, have made wonderful progress in recent years in the production of watches by modern methods must be taken into account. In Switzerland portions of certain classes of watches are made by hand, and it is a well-demonstrated fact that hand labor, no matter how cheap and proficient, can not compete with modern machinery in the world's markets.

The crisis in the watch industry in Switzerland does not, however, affect seriously the trade of the Confederation with the United States. The total value of watches and clocks exported from Switzerland in 1906 was $29,000,000, of which only $175,000, or a little over 6 per cent, is credited to the United States. The total imports of watches and clocks into Switzerland for the corresponding period amounted to $862,500, of which practically none is credited to the United States.

ITALY.

DEVELOPMENT IN THE MANUFACTURE OF CHIP HATS AND PLAITS.

Consular Agent Carlo Gardini, at Bologna, has prepared the following account of the chip hat and plait industry in that part of Italy:

The manufacture of chip hats and plaits is a very ancient one and characteristic of the province of Modena, within this district, having been introduced at Carpi at the beginning of the sixteenth century by Nicolo Biondo, its inventor. The chip is made through a special process from a willow tree grown on the banks of the Po. During several years past the manufacture of chip plaits has spread into many other communes of the province and in other border provinces, such as Reggio-Emilia, Bologna, and Ferrara, without detriment to the commune of Carpi, the principal center of the trade.

Much has been contributed to the fortunate growth of the historical industry through the improvements effected by a new $500,000 stock company, which has built at Carpi a new plant with perfected machinery based upon the latest chemical discoveries. Nowadays chip hats and plaits are whitened and dyed on the premises, while in the past they were exported to and reimported from Germany and England to undergo this process. Thus the bleached and dyed goods are directly shipped from the place of production to foreign markets.

THE EXPORT TRADE.

The exportation of this peculiar product is made to all the markets of Europe, America, East Indies, and Australia, but principally to New York, Paris, London, Berlin, Brussels, and Vienna. The industry in the province of Modena alone occupies more than 25,000 hands, females predominating. Owing to its peculiarity it is liable, more than any other industry, to periods of business activity and of stagnation, in accordance with the changes of fashions. The annual production is estimated at 10,000,000 to 15,000,000 Italian lire, equal to $1,930,000 to $2,895,000. During the past three years both the production and the exportation of chip hats and plaits steadily has increased. The yearly exports from the commune of Carpi, which a few years ago was calculated at 3,000,000 to 4,000,000 lire, equal to $579,000 to $772,000, has increased to 15,000,000 lire, equal to $2,895,000. During the fiscal year ended June 30, 1907, the declared value of chip hats and plaits exported from Bologna to the United States was $357,996.

Straw hats and braids are also extensively manufactured in the commune of Formigine Modena, where the average annual production is about 3,000,000 pieces of braids, measuring from 40 to 50 yards each, besides 30,000 straw hats.

Willow baskets represent a prosperous industry, which was formerly scattered. An enormous exportation, chiefly to Germany, is the work of several hundred poor families of the country.

FRANCE.

FLUCTUATING BUSINESS IN THE NIORT GLOVE SKIN TRADE.

Consul George H. Jackson makes the following report from La Rochelle on the French kid-skin and glove trade in the adjoining city of Niort:

Formerly Niort occupied a very important position in tanning and preparing kid skins for glove making and for the manufacture of gloves. The leather produced there is exclusively that known as "suede" or "chamois," being an excellent imitation of genuine chamois skin. The industry and commerce became much reduced as "suede" gloves went out of style. Recently this business is beginning to look up again. The business methods of the producers may have had something to do with the decline. Formerly purchasers sought this market until travelers from other centers visited the purchasers, who, being thus relieved of the necessity of seeking their goods, bought of the agents. Niort still clung to the habit and tradition and lost her trade. The reviving business is due to

enterprising German and English (principally the former) agents who are again supplying Niort's gloves and kid skins to the export trade.

Last year 100,000 dozen pairs of gloves were produced, valued at $110,000, or about one-third less than the former output. The prices ranged from $3.28 to $12 per dozen pairs, according to the quality.

All the kid skins prepared for glove making are not consumed by the industry at Niort, about 60,000 dozen skins being used to supply other domestic and foreign trade. The value of the skins varies from $3.86 to $11.58 per dozen. The total production of prepared skins (sheep and goat) is about 85,000 dozens, having a value of $656,200.

The American trade has recently become interested in these products, and in 1906 imported to the amount of $10,945. That the quality of the merchandise was appreciated and satisfactory is shown by the importations of 1907, which amounted to $31,597. The tanners of this region are satisfied with reasonable profits and do not employ any "hurry-up" methods in their work.

CHINA.

GLASS AND PORCELAIN MANUFACTURES ARE GROWING IN FAVOR.

The following information concerning the glass and porcelain industries of Poshan, China, and the establishment of a window-glass factory in Peking, is furnished by Consul Wilbur T. Gracey, of Tsingtau:

This consulate recently reported that the glassworks at Poshan, province of Shantung, had taken to the manufacture of glass and porcelain insulators for telegraphic lines, and had sent samples of their products to Peking. It is now reported that the trial manufacture of these insulators has proved even more successful than was anticipated. According to official tests at Peking, they are said to be better and cheaper than imported insulators, and orders will in future be sent to the Poshan works. The governor of the province has given an allowance of about $3,000 gold to improve and enlarge the works.

It is stated that the insulators made of porcelain can be sold at about $1.53 per dozen, and the dozen pieces which accompany them at 8½ cents gold; the necessary hooks and screws which go with them will also be made locally.

The manufacture of several new models for vases, washbowls, and teapots has recently been started, and it is reported that they are meeting with general favor.

There is some talk of starting a cement factory at Poshan, as it is said that suitable rock exists in the neighborhood. All of the new products now being produced at Poshan are being exhibited in Peking; the Government has decided to fill its wants at the city when it is possible, and means are being used to attract attention to the products of the place.

A large glass factory is also being built in Peking with the intention of manufacturing window glass, which is largely used in China, and forms one of the principal imports from foreign countries. The capital of the company is entirely Chinese, the machinery has been secured from Great Britain, and it is reported that Germans will superintend the work.

JAPAN.

SERIOUS MATTING MARKET DEPRESSION—PLANS FOR CURTAILMENT.

Consul-General Henry B. Miller sends from Yokohama the following Japanese newspaper statement on the condition of the matting trade:

Among the other industries suffering from the prevailing depression is matting, the industry in Okayama prefecture being in serious straits on account of the depreciation in the market, resulting in a heavy congestion of stocks and the locking up of a considerable amount of capital. The market has still a downward tendency. It is feared that if present conditions continue longer, financial circles will be seriously affected, and matting men in Okayama are considering measures for the relief of the situation. It is proposed by the matting guilds of Niwase and Nazukawa, the matting-producing centers in Okayama prefecture, that as a first step in the operations for the revival of the market, the cost of production should be reduced, strict measures taken for preventing the production of inferior qualities, the number of weaving looms in operation reduced, and the suspension of sales for the time being to clear stocks.

A belief has been expressed that the area of land devoted to the cultivation of rush for making matting would decrease this year. According to the latest reports reaching the Kobe matting inspection office, however, such is not the case. The area of land devoted to the cultivation of rush in the four principal matting-producing prefectures this year is 3,371 cho (cho=2.45 acres) compared with 3,380 cho last year.

CHILE.

INCREASED USE OF MOTIVE POWER BY SMALL INDUSTRIES.

Consul Alfred A. Winslow, of Valparaiso, reports that the number of small industries which is being supplied with engine and motor power is very rapidly increasing in Chile. Electric power is coming to the fore in this line because of expensive fuel. This is especially true of Valparaiso. In the industries of Santiago there are now in use 491 engines and motors, with a total force of 6,400 horsepower, as follows:

Kind.	Number.	Total h. p.	Average h. p.
Water power	43	1,872	43½
Gas motor	186	1,956	10½
Electric motor	187	965	5
Kerosene engines	4	37	9¼
Gas engines	6	215	36
Steam engines	65	1,356	21
Total	491	6,400	13

AUSTRALIA.

MANUFACTURE OF PHOTOGRAPHIC MATERIALS AT MELBOURNE.

Consul-General John P. Bray makes the report from Melbourne that a factory for the manufacture of photographic material on a large scale is shortly to be established in that city, which, if successful, will greatly affect the imports from the United States. The machinery for the factory has been purchased in the United States and England and the firm undertaking the enterprise has secured from some of the largest manufacturers of the world the formula and rights for the manufacture of films, collodio carbon paper, aristo paper, velox paper, solio printing out paper, dry plates, and other articles. The Australian duty on photographic material is 25 per cent on goods from England and 30 per cent from other countries.

LEATHER MANUFACTURES.

FRANCE.

INDUSTRIAL DIFFICULTIES AND COMPETITION WITH IMPORTS.

Consul-General Robert P. Skinner, of Marseille, advises that the French leather industry is at the present time suffering from a crisis the causes of which are being studied by the minister of labor, and responsibility for which is attributed in no small degree to foreign competition, particularly American and German competition. Mr. Skinner reviews the situation as follows:

For a number of years, ten at the most, foreign countries formerly importers of French goods have been disposing of prepared leathers in the French market. To cite a single example, while exports of French shoes have fallen off, importations of shoes and leather, particularly box calf, have greatly increased. Within the last three years alone importations of shoes have increased from 447,245 pairs in 1905 and 587,402 pairs in 1906 to 664,400 pairs in 1907. It seems to be the opinion that French methods are in need of radical changes, and that French manufacturers will look more and more to such enterprises as the Chicago shoe and leather fair to discover processes suitable to their particular cases.

LIMITED FACTORY OPERATIONS.

At the present time, with a few exceptions, empirical methods prevail in the preparation of French leathers. About half the tanning firms employ less than 5 workmen and 92 per cent of all have less than 21 employees each. The consequence is that while a few strong houses have adopted chrome tanning processes, the many are still using bark and alum instead of extracts, and no great success has followed various efforts to improve the situation, which is to some extent due to the limited capital of the small concerns. Indeed, a number of large firms, after having adopted the chrome process, were obliged to give it up because of repeated accidents in which skins in preparation were badly burned.

A French employer estimates that more than three-fourths of the colored box calf used in this country is imported, and particularly from Germany. The demand for the leather is considerable, and the care with which it is produced in the United States and Germany enables exporters to demand high prices.

Twenty-five years ago France supplied the world with glacé-kid skins, but since that time German and American competitors have captured the foreign trade and since 1906 have taken a strong place in the French market itself. The minister of labor makes the following very significant statement:

> The chemical methods of manufacture (of glacé-kid skins) in the United States are or were superior to French methods; we have about equaled them. Foremen were sent to the United States; the sons of important manufacturers themselves were sent over to study these methods. Finally machines were set up in this country like those used in the United States. But the thing that was missing and is still missing, perhaps, was the intelligent and willing cooperation of the workmen in taking up these new processes. The French workman, unlike the American, does not readily adopt machinery. He works much slower and therein his education is yet to be made.

To mention one instance of the activity of the American workman: In one day in a fleshing department in the United States 40 employees with 40 machines would make 1,500 dozen of skins of 75 feet to the dozen; in France in one of the great houses 40 workmen and 40 machines—American machines, like the others—make 800 dozens, and the skins are of only 65 feet to the dozen. Here is a constant cause of inferiority. Also in the concern referred to it is proposed to reduce the number of workmen. One-third of them must soon be sent away if the present system of labor is not ameliorated and the cost of the product reduced.

STATEMENTS OF WORKMEN.

Foreign competition in France does not stop at dressed glacé kid; it extends also to patent kid, an article in which French manufacturers have been without superior in the past. According to the workmen themselves, American leather of this class is preferred in this country, even at higher prices, because "their varnishes are less brittle, the grain is not loaded, and thus the skins resemble a very brilliant glacé, while ours at times resemble oilcloth; the coating of varnish, being thicker, hides the grain, and is more liable to crack."

It seems to be conceded that, in a general way, foreign leathers are better than French, and sell better, although higher in price. No very definite remedies are proposed. The workmen, whose situations become more precarious, suggest a mixed committee to study the whole question from every point of view, including a modification of the tariff covering leather and leather goods.

TARIFF DISCRIMINATION—FOREIGN TRADE.

It is apparently the case that whereas American leathers were the first to reach the French market to an important extent, German leathers are now coming in and tend to displace the American. As in many other lines of business, the latter are seriously handicapped by tariff discrimination, for whereas American exporters pay maximum rates the German houses have the benefit of the minimum tariff. In this respect German competitors find an excellent profit in their tariff advantage alone. The rates are as follows:

Articles.	General tariff paid by United States per 100 kilos (220 pounds).	Minimum tariff paid by Germany per 100 kilos (220 pounds).
Tanned goat, kid, sheep, and lamb skins	$2.89	$1.93
Other skins—entire squares	11.58	6.17
Waxed calf, or ready to be waxed	7.72	4.82
Dressed goat, kid, sheep, and lamb skins	17.37	11.58
Dressed and grained beef skins, colored or black	13.51	9.65
Patent leather	36.67	24.12
Boots, per pair	.48	.38
Shoes, per pair	.48	.29
Slippers, per pair	.19	.14

The total exports of leather from France for the past three years have been:

Articles.	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Tanned leather	3,259	3,558	3,099
Waxed calf	671	1,073	1,096
Curried leather:			
Small skins	3,589	2,999	3,428
Large skins	707	714	706
Patent leather	339	859	898

The total leather importations into France for the same periods have been:

Articles.	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Cut soles and and heels	2.3	2.9	3.5
Boot tops	17.3	26.5	22.5
Belting and straps	152.5	143.9	122.9
Tanned goat, kid, sheep, and lamb skins	1,111.7	864.7	996.7
Other tanned leather	4,371	4,840.4	4,594
Curried leathers:			
Waxed calf	162.5	165.4	221
Tinted or black calf or goat skins	589.1	746.7	575.7
Cowskins or larger skins	445.8	523.8	562.7
Pigskins	197.9	184.3	171.6
Varnished leather	224.3	246.9	256.2
Unclassed	130	142	82.3
Shoes.....pairs.	664,400	587,402	447,245

Included in the above are:

Description.	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Importations of prepared skins from United States	498.1	536.9	339.1
Importations of prepared skins from Germany	1,102	1,261.7	1,357.1

BRITISH INDIA.

DEEP INTEREST IN IMPROVED TANNING METHODS—NATIVE MATERIALS.

The following report from Consul-General William H. Michael at Calcutta indicates that the tanning industry in India is entering upon a new era:

Old methods are passing away and modern ones are taking their place. Within the last few months several young Indians have applied to me for information as to how they might avail themselves of instruction in America on the modern methods of tanning and dressing leather. They were well educated and highly connected, and well-to-do Hindus, who were willing to enter an American tannery and learn the business from the bottom up. They had passed through the laboratory training given in India, and taken practical instruction in Indian tanneries, but they had found that in tanning and dressing of leathers they would find more advanced methods in the United States.

There is a very general feeling in India that the tanning materials indigenous to the country are not being utilized to the best advantage, and the subject is being agitated in the press and scientific schools. It is proposed to send sample barks and woods possessing tanning properties to England for analysis to determine their value, and to make extracts for testing purposes in actual tanning.

It is believed that India can enlarge her leather-tanning operations by use of extracts, which is considered better than the barks, and at the same time establish a large export trade in such extracts. Extracts from the acacia catechu, or cutch, as it is commonly called, is made in Burma, Kumaon, and Bombay. The extract itself was at one time called "terra japonica," because it was at first classed as a mineral substance. In 1906 there were 7,318 tons of this tanning and dye commodity exported to England. There is a growing demand for myrabolams in the United States. This is a fruit of the termi-

nalia chebula, which grows abundantly in parts of India and Burma. Myrabolams are largely consumed in Germany, where the imports have fallen from 19,141 tons in 1904 to 14,744 tons in 1906. There is one factory in India where an excellent extract of myrabolams is made for the English market. This is at Ranigunge, but in order to meet the demands of the trade there should be a similar factory established in Madras and Bombay. Myrabolam extract is light in color, and admits of combination with other materials for the manufacture of high-class leather.

THE FISHERIES.

NORWAY.

NEW LAW PASSED FORBIDDING TRAWLING—HOW IT WILL OPERATE.

Consul Felix S. S. Johnson, writing from Bergen, says that the new law forbidding trawling in Norwegian waters has been unanimously passed by the Parliament at Christiania, to which he adds:

The law may therefore be considered as enacted, and will be enforced as soon as it has the King's approval. As this law is intended for the whole country and will be in operation the year round, its enforcement will be easy when its provisions are carried out. Special benefit will be derived by the decision that foreign trawlers within Norwegian territory will be obliged to keep their trawls unfastened from the float boards and stowed away. The trawlers' possibilities of taking advantage of the absence of supervision within Norwegian territories are thus greatly lessened, as this stowing away of the trawl is a task which a trawler rather prefers not to undertake while on a cruise. Exempt from this law are shrimp trawls of a size to be determined by the King, in order that the shrimp fishing may not be damaged to any extent. Recommendations as to this restrictive law had been sent to the fishing department on February 14, 1906, by the Director of the Fisheries and were, in 1907, strongly and unanimously indorsed by the fishing committee. The Government bill was brought up on February 25 and prompt action taken, because of the use of the trawl by Norwegians in Finmark during the cod-fishery catch this year and from fear that foreign trawlers, a great number of whom now want to fish east, especially at Cape Kanin at the inlet of the White Sea, would in time fish along the Finmark coast.

EFFECT ON SEINES AND LINES.

The employment of seines and lines on the same coast extensions which are now used by trawlers is not possible, as these implements would be caught by the trawls and carried off or broken. The prohibition is thus a necessity for the regular seine or line fishing, which in a smaller or larger degree is carried on along the Norwegian coast.

A great part of this fishing is carried on outside the mile boundary (Norwegian mile is a little more than 6 English miles), where the fishermen can still stand the risk, but the water, which as a rule is deep, makes the opportunity for trawl fishing much smaller.

Trawl fishing in Norwegian waters has not been practiced to any extent until this year, when a Norwegian trawler operated in the Finmark fisheries. Therefore the law does not interfere detrimen-

tally with any trade now carried on. It is believed, however, that in future more and more trawl fishing will be carried on outside the territorial boundary; for instance, in the North Sea, the Faroes, Iceland, and on the sea banks east of Finmark.

Should it come to that, exceptions will possibly be made in the rules for fishing during certain fishing seasons and upon certain extensions which are found suitable for trawling, but this is a question for the future, the present conditions of the Norwegian fishing trade not calling for it.

CANADA.

ONTARIO'S DECREASED CATCH—AMERICAN ROD FISHERS IN KINGSTON.

Consul Howard D. Van Sant, of Kingston, furnishes the following statistics relative to the decreased fish catch in Ontario waters and the annual expenditures of American rod fishers in the Kingston district:

According to Canadian official publications the difference in the catch of whitefish and herring between 1889 and 1906 amounted to 11,500,000 pounds. Measures are now being urgently proposed for better fish protection, both for game and food fishes. There are 37 branches of fish-protecting associations in Ontario circulating petitions dealing with the protection of fish, asking that more inspectors be appointed, equipped with power and other boats, and that the Province have hatcheries capable of turning out 300,000,000 fish annually.

In 1907 the export of fish from the Kingston district to the United States amounted to $17,984.88. These fish were principally whitefish, though considerable quantities of herring, catfish, rockfish, etc., were exported. The export of black bass, the gamest and best food fish of these waters, is prohibited. It is estimated that several thousand Americans annually visit Kingston and vicinity to engage in the black-bass fishing, the open season of which commences on June 15. As each American fisherman must pay from $2 to $5 license fee, and as it costs him from $25 to $200 before his fishing trip is ended, the yearly income from Americans engaged in bass and salmon fishing in this district amounts to several hundred thousand dollars.

BOMBAY ELECTRICAL DEVELOPMENT.

ADVANCED USE OF MODERN LIGHT AND POWER IN BRITISH INDIA.

In reporting that less than three years ago Bombay, the third largest city in the British Empire, was without any organized system of electrical supply, Consul E. Haldeman Dennison presents the following developing contrast:

In September, 1905, a new era was born when the newly formed Bombay Electric Supply and Tramway Company started a public electric supply over about 7 miles of mains in the European business section of the city. The advantages of electricity were speedily appreciated, and by the end of the year installations amounting to the equivalent of nearly 20,000 8-candlepower lamps had been coupled to the mains, including over 1,000 electric fans.

During the past two years, although busied with the electrical construction of its prosperous horse tramway system, the company has found time to develop its general electrical supply at the rapid rate shown by the following table.

Date.	Mileage of streets served by mains.	Equivalent number 8 c. p. lamps.	Number of electric punkahs.	Brake h. p. of electric motors.
January 1, 1906	7¼	19,778	1,050	69
January 1, 1907	8	58,849	2,110	219
April 1, 1908	11¼	a100,000	4,000	474

a Approximate.

The increase in the consumption of electrical energy is also shown by the fact that in 1907 the units sold to consumers was 1,233,671, against 488,477 in 1906. This rapid progress shows no signs of falling off, and now that the electrification of the tramways has been practically completed, the arrangements for providing electric supply in other districts of the city will be taken in hand. Trunk mains have already been laid to Malabar Hill, the fashionable residential section, where 3 miles of distributing mains have already been laid and a further 2 miles will be brought into operation before July next. In fact in a few months more every section of the city will be supplied.

One of the chief points in favor of the electric supply is its low cost. During 1907 the average rate per unit for lighting and fans only amounted to a fraction more than 7 cents, an average which is perhaps the lowest obtainable in the East.

COST TO CONSUMERS.

Considerable modifications and reductions have been made in the rates originally offered, and for what may be termed the "retail" supply the following are now in force:

(*a*) For general purposes, 8 annas (anna=2 cents) per unit for the number of units equivalent to one hour's use per day throughout the month of the maximum demand as shown by indicator, and 2 annas per unit for all units in excess of this quantity as shown by difference between meter and indicator readings for the month.

(*b*) For elevators, 4 annas per unit flat rate.

(*c*) For bona fide industrial motive power installations of 5-brake horsepower and upward, 2 annas per unit flat rate.

Under rate (*a*) it is found that the cost of a supply for fans and lighting for a residential flat averages 15 rupees (rupee=32.4 cents) per month, a most moderate charge considering the luxury obtained as compared with the old-fashioned oil lamps and hand-pulled punkahs. Rate (*b*) is rapidly being taken advantage of for passenger elevators in all the modern blocks of offices and flats, the average cost of running an elevator being found to be under 20 rupees per month. Rate (*c*) has been adopted as an encouragement to small industrial concerns, such as printing works, mineral water factories, etc., and the advantages of the low first cost, small space occupied, and absence of noise are speedily bringing the electric motor into favor in Bombay.

As regards the supply of electric motive power in large quantities little has yet been done in this direction, for the demands made by the electric tramways and by the rapid increase in the general supply

business have engaged nearly the whole of the 6,000 horsepower of generating machinery belonging to the company. Extensive additions are now, however, under consideration, and as soon as these are made it is anticipated that special advantages will be offered to many manufacturers and that electric driving on a large scale will be introduced in Bombay.

FRENCH DAIRYING PROGRESS.

LA ROCHELLE DISTRICT IMPROVING BREEDS AND PRODUCTS.

Consul George H. Jackson reports that the dairying industry is taking on increasing importance in the French region of La Rochelle, which is admirably adapted to the necessary conditions, viz, plenty of water, good pasturage in extensive meadows, and a climate relatively uniform, which permits cattle to feed in the fields nearly all the winter. The consul continues:

In the neighborhood of all the cities of any size, not only in this consular district but all over France, dairying efforts were formerly made with a greater or less degree of success, and it is but recently that larger interests are creating centers for the production of these foodstuffs. Consequently there have been numerous experiments in removing milch cattle from one part of France to another to see if they adapted themselves readily to new surroundings. For instance, it has been found that the Normandy cow brought to this region loses to a certain degree her excellent qualities as a butter maker, while those from Brittany maintain the excellent reputation they have at home. The Parthenay breed of cattle is perhaps the most remarkable for butter producing. It is generally conceded in this region that it is necessary to average 17 liters (17.85 quarts) to produce 1 kilo (2.2 pounds) of butter. This was already considered an excellent showing, but in the competitions of 1905 and 1906 milch cattle of the Parthenay breed gave remarkable results.

The competition of 1907 was equally interesting, the first prize being accorded to a cow whose milk produced 1 kilo (2.2 pounds) for each 11.28 liters (11.83 quarts). The averages for the last competition varied between 13 and 14 liters (13.65 and 14.70 quarts), instead of 17 liters (17.85 quarts), which was formerly considered an excellent showing.

CAREFUL CONSIDERATION OF PROFITS.

This industry is proving profitable for the wide-awake dairyman who chooses carefully his animals and organizes his pasturage in such a manner as to permit his meadows to take on new growth after they have been carefully browsed over by his cattle.

In the Pyreneese it appears that a liter (1.05 quarts) of milk sells for an average price of 20 centimes (4 cents). At this price the keeping of cattle is considered lucrative. Far from the cities a liter of milk (1.05 quarts) fed to calves and pigs is worth about 10 centimes (2 cents). In the same localities, sold for dairy purposes, it is worth 12 centimes (2⅓ cents). In this region a liter of milk (1.05 quarts) produces butter worth 17 centimes and buttermilk worth 2 centimes, a total of 19 centimes (nearly 4 cents). It must be taken into account that there is more or less loss when milk is sold for consumption as such, which necessarily diminishes [redacted] to the proprietor,

while milk sold for butter maintains its entire value as calculated from these figures.

Dairies are being established very rapidly in the whole consular district, and the butter of Surgères, manufactured after the most improved methods, is rapidly displacing on the Paris market Holland and Belgian butters. In fact, demand for dairy products of this region is very much greater than the supply, and the larger cities are all the time calling for more. Experiments are being conducted with several breeds of cattle in order to learn their value as butter producers.

TURKS ISLANDS SALT.

LATE SEASON—MISUNDERSTANDING BY AMERICAN IMPORTERS.

Consul J. A. Howells makes the following report on the salt trade of Turks Islands in the West Indies:

Salt raking began in this colony May 1, being somewhat later than usual. The price has advanced to 5 cents for coarse and 7 cents for ground salt—in fact, while coarse salt has been selling at 4½ cents a bushel, ground salt has brought 6½ to 7 cents. There is now only about 250,000 bushels in sight, and with three or four vessels loading the stock on hand will be reduced to less than 200,000 bushels. Some holders have already refused to sell at 5 cents.

Sometimes misunderstandings arise between salt dealers in the United States and salt makers of Turks Islands colony as to weight of salt. It should be understood that all salt shipped from this colony is sold by the bushel, and never by weight. A bushel of salt at Turks Islands contains 35 Imperial quarts—equal to nearly 36 quarts in the United States. A cargo of 25,000 to 35,000 bushels will often overrun 500 bushels when measured in the United States. It varies greatly in weight, running from 60 to 75 (or even more) pounds to the bushel. Ground salt always weighs more than coarse salt.

If these facts were considered, there should be no disputes about short measure. When loading, a Government inspector is on board the vessel and tallies every bushel as it is cast into the hold.

GERMAN HOME WORKERS.

LOW WAGES PAID FOR HAND-MADE WORK IN THE VARIOUS LINES.

Consul-General Richard Guenther reports that the "Exposition of hand-made home manufactures" recently held at Frankfort indicates very low wages for the persons working at their homes on many articles made for the German trade. His details follow:

Women earn 1.6 marks (38 cents) for knitting a dozen pairs of gloves which absorbs 4 days' work of 10 hours each, thus netting less than 1 cent per hour.

Some of the peasants (small farmers) in the German mountain districts busy themselves during the winter by weaving on hand looms bed ticking and goods for aprons and table use. These weavers earn on an average 5 to 17½ pfennigs (1⅛ to 4⅛ cents) per hour's work.

In Mainz and Worms (ports along the river Rhine) women are employed in darning old bags, their pay being 2½ to 6 pfennigs (⅝ to 1⅜ cents) per sack. The highest wages a woman can earn in one

day is 28½ cents. In consequence of the deleterious dust inhaled when mending these old coal, flour, color, and other bags this occupation is dangerous to health.

Wooden ware (rakes, spades, ladles, spoons, clothespins, shoes, etc.) made by home labor in the German mountain districts are on view in the exposition hall. The persons making these articles earn 10 to 11 pfennigs (2⅜ to 2⅝ cents) per hour's work. Wooden animals and other ornamental carvings (pipes, clock cases, penholders, etc.), showing artistic talent and deftness on the part of the worker, are on exhibition. The artists producing them earn 10 to 13 pfennigs (2⅜ to 3 1/10 cents) per hour's work.

In one district where high-grade pipes are manufactured the superior skill of the workers, who are graduates of the wood-carving school at Empfertshausen is much in evidence. These skilled carvers earn 12 to 30 pfennigs (2⅞ to 7 cents) per hour's work.

THE PEACOCK KINGDOM.

AN INDIAN NATIVE STATE CONDUCTED ALONG MODERN LINES.

In transmitting the following information concerning the native State of Mourbhanj, Consul-General William H. Michael, of Calcutta, reports that it offers opportunities for exploitation by American mining engineers and manufacturers:

The little native State of Mourbhanj, known as the "Peacock Kingdom," is the most northerly of the tributary States of Orissa, and native chronicles relate that the principality was founded more than 2,000 years ago. The chief's emblem of signature is a peacock, which is held sacred, and hence the killing of this heraldic bird is strictly forbidden throughout the State. The State has an area of 4,243 square miles and the country is varied in soil and scenery. It abounds in rich valleys, but a vast extent is clothed with primeval forest. The Maharajah of Mourbhanj is an enlightened prince and administers his State on modern British lines, as the administration report for 1906–7 shows. The government is divided into separate departments, as in British territory, and each department is under an officer, who is responsible for its proper administration. Sericulture is being encouraged, and mulberry groves have been planted. The culture of Tasser silkworms is an important industry, and visitors to the recent industrial exhibition at Calcutta had an opportunity of seeing the "tasser" manufactures of this State. The report records, however, that this industry is in a state of decadence. The country is very rich in minerals and forests, but while the latter are being exploited, the former still awaits the attention of the mining expert. The State owns a light railway. Mourbhanj offers first-class opportunities for exploitation by American mining engineers and manufacturers of various kinds of small machinery, sawmills, and the like.

LABOR WORLD.

INDUSTRIAL ADVANCEMENT.

GERMANY.

COMBINATIONS LEADING TO ORGANIZATIONS OF LABOR AND CAPITAL.

The following information concerning the trades unions of Germany and the organizations of labor employers is furnished by Special Agent W. A. Graham Clark, in connection with his report on German cotton mills:

In 1731 organizations of workmen in Prussia were absolutely forbidden by law. This law was partially repealed in 1848, but soon put in force again, and was not finally abolished until 1868. They then increased rapidly, and as many were socialistic, and even revolutionary, in their scope the Government deemed them a menace and in 1878 once more passed laws against such unions, which had the effect of suppressing large numbers of bodies of workmen. In 1890 these restrictions were finally removed and nearly one-tenth of the German workers are now estimated to belong to some union. Some unions were started from economic, intellectual, or religious motives, but practically all have become socialistic.

There are now a great number of unions and subunions, but the great bulk of these are embraced in the following five groups: (1) The "Free" or Social Democratic Gewerkschaften; (2) the "Christian" Gewerkschaften; (3) the "German" or Hirsch-Duncker Gewerkvereine; (4) the Evangelical Workers' Unions; (5) the Catholic Workers' Unions.

THE FREE TRADES' UNION.

The Social Democratic Gewerkschaften, or, as it is usually known, the Free Trades' Union, is by far the most important and embraces some 1,100,000 of the total 1,500,000 union operatives in Germany. Of the 60,000 women in German unions some 48,000 belong to this organization. It is also the union that appeals most strongly to the textile workers, and of some 45,000 men and 20,000 women of the textile industry in unions, 41,000 men and 13,000 women are "Free" unionists. The largest group of workers belonging to the Free Union are the metal workers, then the masons, the wood workers, and the miners, the textile group ranking fifth.

This union was founded in 1867 and is the oldest of modern German trades unions, with the exception of the smaller unions of the tobacco workers, founded in 1865, and that of the typographers, founded in 1866. All three of these were started before the old law forbidding such organizations was abrogated. The headquarters of the Free Union is at Berlin. It is a very powerful body of workers and is carefully organized. Each class of workers is grouped by themselves, according to sections, and these again subdivided. For

instance, all textile workers around Augsburg are entitled to join the textile branch of this union, but are subdivided into the carders' union, the spinners' union, the weavers' union, the hosiery workers' union, etc., and the head of the general union at each center reports to headquarters at Berlin.

The objects of this union are educational, economic, and socialistic. The educational part is devoted to the education of the worker along technical lines, supplementing the primary school education by lectures, conferences, etc., and arranging apprenticeships. The economic part looks toward the raising of wages and the fixing of uniform wage schedules among all workers on the same line of work; giving relief in case of strikes and lockouts, sickness, etc.; placing workers; organization of cooperative societies; construction of good dwellings for workers, etc. The socialistic part deals with the general amelioration of the condition of the workers, and is largely political. The annual assessment is from 8 to 16 marks, or say 3½ to 7 cents a week, and these assessments, with other sources of income, such as investments, interest, etc., bring in over $5,000,000 a year. The greater part of this sum is expended in sustaining strikes, agitating their propaganda by trade papers and other means, assisting the sick and invalid, relief to operatives out of work, funeral expenses, etc. The reserve fund is now about $4,000,000. The Social Democratic Gewerkschaften is supposed to be nonpolitical, but they usually work with the Social Democratic party, though they are not necessarily supporters of any one party, but are free to work with any party from which they can gain anything in furtherance of their aims. The Social Democrats are avowedly atheistic, and the Social Democratic Gewerkschaften is largely so.

THE CHRISTIAN AND GERMAN UNIONS

This atheistic tendency of the Social Democratic Gewerkschaften is one of the main causes that led to the formation of the Christian Gewerkschaften. The center of this union is at Cologne, and they number some 225,000 members, of whom about 32,000 are textile workers. Their objects are not materially different from those of the Social Democratic Union, except that they emphasize their belief in religion, and their main objects are the amelioration of the condition of the working classes by cooperation among themselves, securing an impartial administration of the laws, and improving and extending them.

The entrance fee of the Christian Union is 50 pfennigs (11.9 cents), but their yearly dues are higher than those of any other German union. These dues are varied according to the average wages received in the various trades, but run from about 15 to 30 marks ($3.57 to $7.14) a year. Their yearly receipts are about $600,000, and they have a reserve fund of about $300,000. Most of the railroad and post-office employees belong to this union. In spite of their religious prejudices against the Free Union they work with it for the attainment of political ends.

Another union that exercises a strong influence is that called the German or Hirsch-Duncker Gewerksvereine, the latter name coming from its founder, Doctor Hirsch. Their objects are especially the securing of higher remuneration for work performed. They also *agitate* for the modification of labor laws in favor of the working *classes, the betterment* of conditions of [illegible] aid in case

of sickness or of stoppage of work, form cooperative societies, instruct workers and give them free counsel, and interfere in cases of difficulties between workers and employers to settle the disputes and arrange wage schedules, etc. They are organized into different trades and these subdivided. Their total membership is about 115,000; only some 6,000 textile workers belong to this union. The object of this union was at first purely economic, but it is now more socialistic. The yearly dues are 10 marks ($2.38). Their reserve fund is about $800,000.

EVANGELICAL AND CATHOLIC WORKERS' UNIONS.

The Evangelical Workers' Unions, formed about 1880, are divided into five main branches, which lie in Westphalia, Rhine, Saxony, Silesia, and Baden. Their object is to elevate the worker morally and intellectually, but their lines of work are not materially different from the three socialistic unions noted. They started as antisocialistic, but most of their 150,000 members lean strongly toward socialism and are active politically. Their main strength lies among those engaged in commerce, such as clerks, bookkeepers, agents, employees in hotels and restaurants, etc., and very little among factory workers. They run a paper to exploit their views, possess libraries, savings funds, relief funds, bureaus for consultation and for placing workers, etc.

The Catholic Workers' Unions were started about 1885, and there are three main unions, those of the south, the east, and the west. Their objects are similar to that of the preceding unions, and they strive to raise the moral and intellectual level of their members within Catholic lines by means of religious and economic conferences. They issue a weekly paper, distribute tracts, and are active politically in furtherance of their aims. They work usually in conjunction with the Christian Workers' Union.

ORGANIZATIONS OF EMPLOYERS.

The rapid increase of workers' unions and their increasing insistence on shorter hours and higher wages has within the last few years led to similar organizations being formed among the employers for mutual protection.

There have been organizations among German manufacturers and employers in general for a long time, but such organizations were mainly local or for commercial purposes, for fixing or changing tariffs, etc. In 1876 there was formed in Berlin a central union of the German industries, the object of which was to develop and extend German trade. In 1904 the strike that broke out among the vigogne spinning mills at Crimmitzschau, in Saxony, fixed the attention of manufacturers on the necessity of having a stronger organization to combat unjust demands of workers, and, at the suggestion of the Saxon manufacturers, the committee of the central union of German industries called a meeting of German employers, which decided to create a central association of the united employers of Germany. Eleven members were appointed to draw up plans and act as an executive committee in establishing the new association. They immediately wired to all manufacturers and in forty-eight hours had collected some $75,000, and this was later added to largely.

This Central Association of the United Employers of Germany is now strongly organized and in its scheme of defense it embraces all

the industrial unions of Germany. It was comparatively easy to organize the German manufacturers for the reason that the insurance laws of the Government had already forced all those in a certain trade in a certain section to work together on boards to administer insurance funds, examine injured and sick operatives, and to see that each factory had proper safety appliances, etc. They were, therefore, accustomed to working together and when menaced by this new danger they organized quickly on the new lines suggested.

This central union is composed of representatives from all the various German employers' unions, and they have subcommittees in each large industrial center representing all the employers' unions in that section. It is a principle among all these associations to try to avoid strikes and lockouts by all means possible, and to this purpose to have conferences with their workers, but to refuse absolutely to listen to representatives of outside organizations of workers.

OBJECTS AND RESTRICTIONS.

The special object of this central union of the employers' associations is announced to be as follows: To protect employers against unjustifiable demands of workers' unions; to protect those who desire work; to extend and develop the bureau for supplying employers with operatives; to execute decisions relative to strikes; to take charge of the legal protection of its members in all cases in which fundamental principles are at stake.

The central union endeavors to gain the adhesion of all manufacturers. It has a bureau for supplying information to members concerning movements of workers and their qualifications, and in regard to the causes and progress of strikes and the means to combat them, etc. Manufacturers may be refused the right of joining this union if their factories are isolated and at a distance from industrial centers, or for other reasons considered just by the majority of the executive committee, and members may be dropped who refuse to conform to the rules or the decisions of the executive committee or who by their acts endanger the interests of the association.

There is a general meeting once a year and funds are supplied according to a fixed assessment. Every member is supposed to work in the common interest by refusing to pay excessive wages, refusing demands for a reduction of the hours of work at his factory alone, refusing to employ workers who have quitted another employer in a manner unjustifiable or illegal, refusing systematically all interference by workers in the management of the factory and especially in regard to the employment and discharge of workers, and to conform fully to lockout decisions of the committee.

One of the most recent conflicts between the employees and the employers' associations resulted in the victory of the former. This was in regard to the amendments to the working law which were passed in December, 1907, and where the workers' unions, against the strong protest of the manufacturers, had the law modified so that after January 1, 1910, women can not work over ten hours a day, instead of eleven, thus reducing the maximum weekly factory hours to sixty, the substituting of twelve for thirteen as the legal hours per day in cases of temporary overtime permitted in certain cases, and other provisions along the same line.

AUSTRALIA.

NEW BILL FOR THE SETTLEMENT OF INDUSTRIAL DISPUTES.

Consul F. W. Goding, of Newcastle, furnishes the following information covering the proposed law for the settlement of all industrial disputes in New South Wales:

Parliament has been convened for the purpose of passing legislation to take the place of the expiring industrial arbitration act, and a bill has been introduced which doubtless will become law in a few weeks. The governing principles in the bill are that there should be a number of boards, composed of practical men, to deal with disputes that in future may arise in any industry; and that an entirely different tribunal should be called into existence to deal with all matters in the nature of enforcing awards which had been made by the boards, called the Industrial Court. This court has power to hear appeals from the award of a board, either on questions of law or of fact, its decisions to be final.

The bill also provides that the party affected by an award or common rule shall be entitled to appeal to the Industrial Court, for it is finally binding upon himself, yet the conditions are stringent. In the first place, the party aggrieved must establish prima facie grounds to induce the court to grant him leave to appeal. In the next place, if leave has been granted, the court may lay down conditions in regard to security for costs which will be a check on frivolous applications. Again, before granting leave to appeal the court may call for a report from the chairman of the board for its own information, and lastly, even if leave to appeal is granted, the award appealed against shall come into operation and continue in operation unless the court shall finally upset it.

CIRCUMSCRIBING UNIONS.

Regarding preference to unions, the clause in the old arbitration act was adopted, which distinctly circumscribes the power of granting preference.

The principle of unionism is recognized as an integral part of Australian industrial life, but it is intended to check any abuse that might be occasioned by the undue growth of that principle. The present bill therefore provides for both members of unions and those outside of unions to approach the court to settle industrial disputes. The boards are constituted for every branch of industrial life, and they are available for the redress of grievances of any body of men.

Strict conditions are provided for the enforcement of penalties; fine or imprisonment for strike or lockout, or for wrongful dismissal, and further, that when a person has been convicted of a strike, and was at the time of the offense a member of a trade or industrial union, such union shall be responsible in money for the individual's conduct, unless it can be shown that the union had taken all reasonable means to prevent any of its members doing anything in the nature of a strike. This provision applies equally to employers who may be guilty of a lockout.

Finally, provision has been made for the board or Industrial Court, at any time, before or after making an award, to require from the person or union applying security for observance of the award. The bill has been agreed to by practically all of the members of Parliament.

AUSTRIA.

PROVISIONS OF THE EMPLOYEES' NEW COMPULSORY INSURANCE LAW.

Consul Charles B. Harris, of Reichenberg, transmits a translation of a law for the compulsory insurance of private and certain public employees in Austria, which will take effect on January 1, 1909.

The law provides for the creation of a fund for the payment of annuities to incapacitated or retired private and certain public employees and the total annual payments to be paid by the employer and the employee.

Persons not obliged to insure are: Those who have secured positions after their 55th year; those who, owing to former service, are already enjoying invalid or old-age annuities, etc.; persons employed outside the limits of this law; employees of traffic railroads, the adjusting of whose claims for insurance is to be provided for by the ministry of railroads.

Persons who are required to insure are: All persons who have completed their 18th year who, from one and the same employer, receive a monthly or yearly wage amounting to at least 600 crowns ($121.80) a year, and also all public employees, having no fixed claims for state, invalid, or old-age pensions, as well as all pensions in favor of their heirs. Employees are, however, not considered who render the following service: Persons engaged in the production of goods and rendering physical labor in the broadest sense, mining, agricultural, and factory workmen, apprentices, and servants; those to whom the domestic-employment law finds application, or who entirely, or almost so, render domestic service. [The law in its entirety is on file in the Bureau of Manufactures.]

AGRICULTURE.

SEEDS AND SEED OILS.

FRANCE.

TRAFFIC IN PEANUTS AND ITS RELATION TO AMERICAN INDUSTRIES.

Consul-General Robert P. Skinner, writing from Marseille, discusses the peanut trade at that French port with reference to the edible oil industry:

It is a popular error to suppose that the United States is in a position to supply peanuts, or arachides, as they are called in this country, for the Marseille crushing trade. The demand for the roasted nut is so great in America that after consuming its own crop, the United States imported $2,967 worth of African nuts from Marseille in 1906 and $73,631 worth in 1907.

As to peanut oil, the declared value of such oil exported from Marseille to the United States in 1907 was $17,006; in 1906 $14,526, and in 1905 $12,695. The total importation of peanuts in Marseille has varied thus during the last three years:

Description.	1907.	1906.	1905.
	Tons.	*Tons.*	*Tons.*
Arachide kernels	113,219	111,158	96,649
Arachides in shell	123,304	78,677	56,031
Total	236,523	189,835	152,680

For a great many years Marseille has been the chief oil-producing center of the world, and its favorable situation with respect to Africa and India has made it possible to find a ready market here for all oil-yielding materials from the regions named. To what extent the developing West Africa coast will be able to increase its exportations is speculative, but there is every reason to anticipate a gradual upward movement in figures already great, since in a total importation of 236,523 tons in 1907 the West Coast provided 119,242 tons, and these chiefly of the most highly reputed grades.

COMPARATIVE NUT PRICES—OIL YIELDS.

The prices of the African nuts in the shell were $55.90 per ton on May 8 and were about that throughout 1907. In 1904 the average prices were about $44.39 per ton. Prices have been generally upward for some years, in sympathy with the world-wide demand for edible greases and oils of all descriptions. These are the facts as they stand, and it remains to be ascertained whether the American farmer can profitably increase his crop of peanuts to such an extent as to permit the creation in the United States of an oil-crushing

industry for the manufactured product of which the demand is not open to question. This is a matter for the South to determine, and in the writer's opinion the answer should be affirmative. There is no great difference in the manner of manufacturing peanut and cotton oil. As numerous mills already exist in the South for crushing cotton seed, it would require no special industrial organization to take up a large crop of peanuts if the farmers found it advantageous to raise them.

It should be borne in mind that the African oil nut crushed in Marseille is not the same variety as that grown in the United States; while the African nut is less delicate as a food product, it yields more generously in oil, and is said to be more easily crushed. Tests have been made with American nuts, both in the United States and in France, and the results as to yield in oil have always demonstrated the supremacy of the African nut.

DEVELOPING NUTS FOR OIL—CURRENT PRICES.

The probabilities are that with a little scientific attention, it would be quite easy to develop an American peanut yielding well in oil and possessing the excellent taste of the present types. A nut must be developed that will give 32 to 33 per cent of its weight in oil.

It is true that African peanuts yield a very high grade oil, but not equal to pure olive oil (which remains and probably will remain, the highest priced and most perfect of all salad oils). However, peanut oil is a very acceptable substitute for olive oil, and susceptible of being sold on its own merits as a superior article.

The best or edible grades of Marseille peanut oil always command higher prices than any other oils except olive, and were quoted on May 8 at $17.37 to $19.30 per 220 pounds (100 kilos), while the best American prime summer yellow cotton oil was quoted at $12.93 per 220 pounds. These figures give the present measure of popular appreciation of the relative qualities of the two oils. Both peanut and cotton oils are sold straight, and are also used for mixing purposes.

ITALY.

OPPORTUNITY IN SICILY FOR AMERICAN COTTON-SEED CAKE.

From careful inquiries made in the Messina district of Italy, Consul Arthur S. Cheney says that it appears possible to find a limited market for American cotton-seed oil cake. He writes:

Full information should be sent to this consulate about this article and, as it is entirely unknown here, a sample, sufficient to at least offer a small demonstration, would be desirable. For the sake of comparison with other articles used as fodder here the wholesale prices of these in the local market per quintal of 220 pounds are herewith given: Hay, $5; straw, $0.96 to $1.35; oats, $4.05; corn, $3.28 to $3.86; bran, $2.70 to $3.28; beans, $3.47.

The problem of finding sufficient fodder for the cattle and large numbers of goats and donkeys in this district is sometimes very difficult. There are only a few milch cows kept here, but oxen are largely used for heavy draft work. In place of cows numerous flocks of goats give practically the entire milk supply for this city, the animals *being* driven through the streets every morning and evening and *milked at the customers'* doors.

I am informed that a compact article of fodder, to be used as a partial substitute for present articles, would be well received here. Direct shipments may be conveniently made from New York or Boston to this port by the Navigazione Generale Italiana, the Sicula Americana, or the Creole Line.

A hay and grain merchant of this city [name obtainable from Bureau of Manufactures] is prepared to endeavor to introduce cotton-seed oil cake to probable consumers here as soon as he is in possession of full information concerning its use, price, etc.

SWITZERLAND.

COTTON-SEED OIL IN COMPETITION WITH SESAME AND PEANUT OIL.

Replying to an inquiry as to the use of cotton-seed oil in the Zurich district, Consul A. Lieberknecht writes:

According to my own knowledge, and information received from leading oil firms here, the use of that oil, or any other oil, for cooking purposes is almost unknown in the eastern part of Switzerland. However, it is used to a great extent in the manufacture of butter—about 1,200 to 1,500 barrels annually in my consular district alone, as stated by one of the leading oil importers here. Of this probable quantity, sesame oil and peanut oil are taking the larger share, they being slightly preferred. Market opportunities for cotton-seed oil are only when it can be had at a little lower price than for the other two named. The oil importers are very willing to handle cotton-seed oil, but some of them claim that they are often disappointed in having their orders filled in proper time, while the other oils are always promptly delivered. The importers here receive their shipments of cotton-seed oil from New York houses and from the large import firms at Continental seaports.

[Names of oil importers of Zurich may be obtained from the Bureau of Manufactures.]

UNITED KINGDOM.

SCOTLAND'S GROWING IMPORTS OF COTTON SEED FOR LOCAL CRUSHING.

In his annual report for 1907 Consular Agent William P. Quann, of Aberdeen, furnishes the following about cotton seed and its products:

There has been a steady increase in the importation of cotton seed from Bombay and Egypt. Until last year no record of it was particularly itemized at the local harbor office, it being classified with other seeds, but the increasing demand for this product has led the authorities to give it special mention, and for the year ended September 30, 1907, 5,281 tons of cotton seed, in the undecorticated state, was received at this port. There are two mills in this district employed in the crushing of cotton seed and another is in course of construction. The oil is growing in demand among bakers and others, who use it in place of lard, and the locally manufactured oil cake, being similar to that originally obtained from America, is gaining popularity as a cattle food. The demand for American cotton-seed cake, at one time very considerable, has now almost entirely disappeared, as it is complained that it has become so hard and dry in recent years as to be of little use for feeding purposes.

ASIATIC TURKEY.

THE PRODUCTION, USE, AND CONSUMPTION OF SESAME SEED.

The following information concerning sesame seed, where produced and where consumed, is furnished by Consul Ernest L. Harris, of Smyrna:

Sesame seed is one of the staple products of the Turkish dominions, and is exported to Europe in large quantitites. Smyrna and the neighboring districts produce annually about 50,000 sacks of 100 kilos (220 pounds) each; Rhodes and the islands of the archipelago, some 30,000 sacks.

Smyrna seed, which is white in color, containing only about 10 per cent of yellow sesame, sells a cent or two more per oke (2.82 pounds) than the seed from other districts, as the oil extracted is clear and has a better smell and taste. Sesame seed from Rhodes and the islands of the archipelago is heavy in weight and gives the largest yield of oil. Indian sesame seed, although inferior to the Turkish product in appearance, quality, and yield of oil, finds a market in Europe when the Turkish crop is small and prices rule high.

EXPORTS TO OTHER COUNTRIES.

A large quantity of the crop is used locally in the preparation of "taheen," which is the crushed seed mixed with the oil. Taheen is chiefly used in the preparation of "halva," a sweetmeat consumed largely throughout Turkey in the winter season. Of late years taheen is being exported to the United States, where it is used probably in the manufacture of halve or eaten raw by natives of these regions living in the United States.

The importing countries are chiefly Russia, Germany, Holland, Austria-Hungary, and France. The conditions of sale are cash against documents, for seed containing not more than 4 per cent of foreign matter, gross for net, in double sacks, f. o. b. shipping port.

Several Smyrna exporters sell for delivery. This manner of transacting business sometimes occasions great losses to the exporters. Last year, for instance, the crop was so small that the market price was nearly 50 per cent higher than average years, so that merchants had to lose heavily in fulfilling their contracts.

BRITISH INDIA.

THE CULTIVATION OF PEANUTS A SOURCE OF WEALTH IN BURMA.

Consul-General William H. Michael, of Calcutta, reports that the cultivation of peanuts in Burma is fast becoming recognized as a source of wealth to the province. In 1903 the area devoted to peanut cultivation was only 3,800 acres, in 1907 it was nearly 80,000 acres.

The districts whose soil is unsuited for any other crops seem well suited to the cultivation of peanuts, which seem indifferent to all but extremes of climate. Although it is still premature to predict the possibilities of the province as a producer of these nuts, the strides which its cultivation has made in a few years lead to the conclusion that the possibilities are likely to be very great.

FLORICULTURE.

GERMANY.

ERFURT'S EXTENSIVE SEED AND PLANT INDUSTRY.

Writing from Weimar, Consul Will L. Lowrie says that Erfurt, a thriving commercial city of southern Prussia, with more than 100,000 inhabitants, is known throughout Germany as the "flower city." It has a world-wide reputation for flower and farm seeds and plants, the trade in which the consul portrays as follows:

The declared exports of these products to the United States in the last ten years amounted to $561,741, last year's shipments being worth $53,888.

The origin of the industry dates from the tenth century, and it was developed by the monks of the Peters monastery. The growth to the present large proportions is of much more recent date. Since 1880 the business of raising flower and garden seeds and plants in Erfurt has increased rapidly, until it is now five times as large as it was a quarter of a century ago. When the land failed to produce good wine grapes, the people turned their attention to the seed industry as a means of saving their waning fortunes. In former years the hills about Erfurt and Jena were famous for their vineyards. The wine was sold mostly at Weimar, about halfway of the distance between those two cities, giving this place its original name of "Weinmarkt," which was changed later to Weimar.

EXTENT OF INDUSTRY—WAGES PAID.

The soil about Erfurt is especially adapted to the culture of vegetables and plants. It is deep, rich, and well watered. The annual rainfall is heavy, and the surrounding hills afford good protection from the cool winds which sometimes sweep down from the Thüringerwald. There are 108 concerns engaged in the seed industry, also 35 seed exporters and 24 florists. An idea of the extent of this business may be gained from the area of glass employed. The total is 113.735 square meters (square meter=10.764 square feet), of which 30,867 square meters cover propagating houses and 82,858 square meters are used over specially fertilized beds. Nearly 3,000 people are employed in various capacities.

While there are no statistics available in regard to the total annual output of the Erfurt seed and plant concerns, a single firm produces each year 70,000 to 80,000 cyclamen, 400,000 lilies of the valley, 60,000 apple sprouts (in pots), 20,000 pear sprouts, 10,000 plum, apricot, peach, and quince sprouts, 30,000 strawberry plants, 300,000 short-stemmed and 40,000 long-stemmed roses. This concern has a dozen large hothouses and sales rooms, packing rooms, blacksmith shop, carpenter shop, and bindery where the cut flowers are arranged and the dried plants and mosses are put together in wreaths or bundles.

Garden products raised in Erfurt may not be peddled in the city. This business is mostly of an export nature to various parts of Germany. The annual shipment of cauliflower amounts to 6,600,000 pounds.

Compared with the standard in the United States, the wages in Erfurt are small. A superintendent receives annually 3,000 to 4,000 marks (mark=23.8 cents), a technical man 2,000 to 3,500 marks,

office superintendent 900 to 2,000 marks. Experienced workmen are paid weekly and receive 800 to 1,800 marks a year. Inexperienced men receive 800 to 1,000 marks and the same class of women labor from 500 to 600 marks. Women employed in the binderies are paid 700 to 800 marks a year.

Office men work from 7 to 12 a. m. and from 2 to 6 p. m. The working hours for the other employees are, in summer, 6 a. m. to 7 p. m.; winter, 7 a. m. to 7 p. m.; rest periods are one-half hour for second breakfast (Germans take only coffee and rolls early in the morning and eat a heartier meal later on), one and a half hours at noon, and a half hour at vespers.

GARDEN LAND—VARIETIES OF SEEDS.

About 2,000 acres of land in the city and the immediate vicinity are devoted to gardens. This land is owned by the Crown, the city, and private individuals. It is leased to the various concerns at rentals depending on the location and on the productiveness of the soil. Owing to the rapid growth of the city, which rivals the percentage of a Western "boom" town in the United States, quite an area of the best garden land has been plotted into city lots and is fast being covered with fine villas and houses.

The cultivation of the gilly flower in Erfurt dates from 1810. It first appeared in the window of a citizen, and from this one pot hundreds of thousands of these flowers have been propagated. The estimated annual production is 680,000 plants. To the same extent, or nearly so, is the cultivation of the calceolaria, verbena, petunia, gloxinia, zinnia, pansy, carnation, balsam, phlox, hollyhock, pelargonium, fuchsia, azalia, etc., in almost endless variety. It is estimated that the annual output of flower seeds is not much under 1,000,000 marks ($238,000).

Vegetable and farm seeds are cultivated in large quantities and in great variety. Among them are included 101 kinds of peas, 168 of beans (700 bushels shipped this year to Boston to help make up the deficit in its staple food), 269 varieties of kitchen herbs, 38 kinds of radishes and 30 of other roots, 34 of onions, etc., 65 of grass for fodder, 30 of clover, 320 species of potatoes. There are 1,542 varieties of vegetable seed cultivated in Erfurt.

PRESERVATIVE QUALITIES OF FERNS.

EUROPEANS SUCCESSFULLY USE THE LEAVES IN MANY WAYS.

Consul-General Richard Guenther, of Frankfort, advises that a newspaper of that German city states that the fern plant, which grows almost everywhere, is an excellent preservative for packing articles of food, fruit, etc. A summary of the article follows:

People who have lived in England know that the English have used it successfully for many years. Valuable fruit, fresh butter, etc., are no longer seen in the English markets packed in grapevine leaves, but almost always in fresh fern leaves, which keep the articles excellently. This is done where grapevine leaves are to be had in abundance. Everyone posted well in botany knows the high preservative power of fern leaves with reference to vegetable and animal substances.

On the Isle of Man fresh herrings are packed in ferns and arrive on the market in as fresh a condition as when they were shipped. Potatoes packed in *ferns keep many* months longer than others packed only in straw. Experiments

made with both straw and fern leaves in the same cellar showed surprising results in favor of ferns. While the potatoes packed in straw mostly showed signs of rotting in the spring, those in ferns were as fresh as if they had just been dug.

Fresh meat is also well preserved by fern leaves. It would seem as if the highly preservative qualities of fern leaves are due to their high percentage of salt. No larvæ, maggots, etc., approach ferns, as the strong odor keeps them away.

BRAZIL.

PURCHASE AND SHIPMENT OF ORCHIDS FROM THE TROPICS.

According to Consul-General George E. Anderson, of Rio de Janeiro, there seems to be considerable activity in the orchid exporting business of Brazil, and the United States has a great portion of the increased business. He continues:

So far there has been no great volume of exports of live plants of various sorts from Brazil, although there is a constant but small business in the export of young palms and palm seeds. In the line of orchids there are a number of firms operating in the several coast ports of the country, buying plants, as they may be secured in the interior and selling them as opportunity offers, generally at the present time on a commission and consignment basis. From time to time several of such firms send men into the interior to secure specimens, but at present most of the goods are coming down to the coast apparently as a result of previous work on the part of the hunters. One of the leading American houses making a specialty of orchids has had a man in the interior ranging over a wide stretch of country. His work has been very successful and the shipments of his goods account for much of the increase now noted.

METHODS OF HANDLING AND PRICES OBTAINED.

Most of the orchids taken in the past have been shipped to England, where there are a number of great houses doing a world-wide business in such plants alone. The increased interest in them in the United States has followed largely from European interest. While the plants are somewhat difficult to handle with safety in a commercial way there is comparatively little loss from damage in transit. Sometimes the plants are packed in baskets, an average of about a hundred in each. Other firms ship them in specially constructed cases with much larger lots in a case. The average value of the shipments out of Rio de Janeiro is substanially 20 cents a plant in Rio de Janeiro harbor. The number of the finer and rarer varieties secured and shipped is comparatively a small item in the trade, the standard varieties forming the vast bulk of the business.

There are something over 6,000 varieties of orchids recognized and described by the authorities in the botanical gardens of Rio de Janeiro. A very large portion of this list of plants is composed of varieties which have little or no value from any standpoint. Some varieties are very common, while a great many of them are rare enough to command from $15 to $30 here in Brazil. Other varieties are very rare and the value of specimens is mostly fixed by what collectors will pay for them, varying greatly from time to time. Probably three-fourths of the business, in value, is in less than a dozen varieties of the plant.

NETHERLANDS.

THE GROWING OF TULIPS AND HYACINTHS A PROFITABLE INDUSTRY.

Consul-General S. Listoe, of Rotterdam, makes the following interesting statements in regard to the rapidly growing Dutch bulb trade:

An industry characteristic of the Netherlands is the raising of tulip and hyacinth bulbs. Attempts have been made in several parts of the world to grow these, but nowhere can the experiment be said to have been successful, as the proper kind of soil for the propagation of perfect bulbs seems only to exist in the small space of territory between the cities of Leyden and Haarlem. This stretch of country is in reality the bottom of the old Haarlem Sea (Haarlemmer Meer), which was laid dry about the year 1852, and this sea-bottom dirt, a combination of sand and decomposed vegetables and plants, appears to be the only soil capable of producing the flower bulbs mentioned.

These bulbs are therefore exported to all parts of the world, the United States taking its full share; the demand is constantly increasing, and in consequence of this fact an increased area is from year to year set apart and devoted solely to the cultivation of bulbs. The statistics for 1906, the latest available, give this area as 4,058 hectares, equal to 10,027 acres.

The exports of bulbs and bulbous roots from the Netherlands in 1907 amounted to 33,610,280 pounds, of which 6,214,120 pounds, valued at $531,098, went to the United States. In 1906 the total exports were 26,180,000 pounds, the shipments to the United States being 5,098,940 pounds of a declared value of $536,242; the relative figures in 1905 were 25,640,340 pounds total, and 4,413,640 pounds, worth $417,611, to the United States.

The best customer for the tulip and hyacinth bulbs of the Netherlands is the United Kingdom, which purchased 13,950,200 pounds in 1907. Germany and Austria together bought 8,728,720 pounds, Norway, Sweden, and Denmark 2,307,360 pounds, and Russia 793,100 pounds.

As an indication of the growth of this branch of Dutch agriculture, and as a demonstration of the regular increase in the demand for Dutch bulbs, it may be stated that the exports in 1897 were only 12,543,955 pounds. The advance since that time has averaged over 2,000,000 pounds a year.

TURKISH OLIVE INDUSTRY.

CULTURAL AND HARVESTING METHODS IN CONSTANTINOPLE DISTRICT.

Consul-General Edward H. Ozmun writes that in the consular district of Constantinople the Turkish Vilayet (Province) of Broussa, on the southern shore of the Sea of Marmora, is the great olive-producing district. He describes this industry as follows:

About one-fourth of this Vilayet is interested solely in the culture of olives, viz, on the east the coast of the sea of the archipelago, to the north the whole coast line of the sea of Marmora; also the districts between Ghemlek, in the Gulf of Moudania, to Nicea. The natives distinguish 6 varieties of olive trees, of which 3 are wild and 3 grafted. The wild trees produce only after the eighth year but last *several centuries, some* being said to have existed a thousand years.

The wild tree, planted in January to March, is grafted in the month of May of the following year. The graft is made either on the trunk or the eye, the latter method giving better results. The grafted trees are transplanted and bear after the fifth year.

Olive crops are erratic, and although a full crop is expected every alternate year, there is often an absolute failure in some localities, whereas in others the trees are loaded with fruit. In this country it is said to depend entirely on how and where the olive groves are situated and whether the trees are exposed or protected from the "sirocco," or south desert wind; when prevalent this wind affects man, beast, and bird, as well as plant life.

LOCATION IS IMPORTANT.

Olive trees flower in May, and should the groves be exposed to the south there is always danger till the end of August, especially if the summer is dry and the south wind prevails, of the bloom being coated with a fine white web, a nest of microbes, which encircles the flowers and causes them to gradually shrivel up and ultimately drop off, the result being either a poor crop or none at all. If, however, the trees are protected on the south, and exposed to the north, they not only thrive and are healthy and strong but, as a rule, annually bear more or less fruit. (These observations, however, only refer to this climate, and olive growers of California must conform to their own climatic conditions.)

Careful growers place the trees in a position to avoid exposure to the hot winds that prevail during the period they are in blossom, in squares and at least 9 or 10 yards apart, and in such a way that from whatever point one looks they are always in a straight line. Should they be planted closer, in time as they grow older and stronger the branches become entangled with each other, to their disadvantage.

COMPARATIVE TESTS—CAREFUL PRUNING AND CUTTING.

Experiments in certain olive-growing districts have demonstrated that in a hectare (2½ acres) of soil, planted respectively with 250, 100, or 50 trees, the yield of oil was the same, but of superior quality in the case of those planted wide apart, and furthermore such trees were almost free from disease. Air and light seem essential elements to successful olive culture.

Pruning should be done immediately after each crop has been gathered. This refers only to trees of from 7 to 8 years and upward; younger ones are on no account to be pruned, with the exception of the shoots that annually spring from the roots and round the bottom of the trees, which are cut away every year. On the older trees all shoots that turn inward or toward the center are carefully and cleanly cut off, and the shoots from the roots likewise removed annually. Rot appearing on the roots and branches of the trees is cut away, care being taken to thoroughly remove all diseased parts of the trees.

The ground each year is carefully stirred at least 2 feet deep and a yard in width round each tree, care being taken that the roots are not left exposed, but covered over. Thus the earth becomes loose and absorbs the rain, which penetrates to the roots and keeps them moist; whereas if this is not done or the culture be shallower the earth soon becomes dry and *hardens* and the rain fails to penetrate to the roots,

which are deprived of the moisture so requisite to sustain the trees in dry and sultry weather, causing the fruit to drop off.

The groves are cultivated over once a year at least 12 inches deep; two months later the land hoed, and this repeated two months later. If the summer be dry, with no hope of immediate rain, the soil round the trees is opened out for about 18 inches and 10 gallons of water given to each tree. This refreshes them and prevents the olives from dropping off. The watering, however, is never done in the morning when the sun is on the trees, but always in the afternoon, the later the better; and the ditches are allowed to remain open for forty-eight hours, after which the soil is replaced.

FERTILIZATION AND HARVESTING.

Manuring is only done once every three years, and the fertilizer placed all round but at least a yard from the trunks. This is done in September and allowed to remain until the following March, when culture works it i to the soil. Olive trees thrive best in rich and soft soil, the more virgin the better.

Harvesting generally commences in late November or early December, lasting until Christmas or later, according to the size of the crop, the method being as follows: A cloth or matting is placed on the ground around the tree; then as many persons as the tree has branches get into it, generally by ladders, and each one taking a branch pulls the fruit-bearing twigs through their hands, careful not to break them, and letting the olives fall to the cloth or matting below.

The daily wages for adults range from 24 to 28 cents, and each person can gather about 60 okes (oke=2.8 pounds) of olives a day. The hire of a horse or mule per day costs 40 cents, and each animal should carry about 600 okes of fruit per day. This, with the cost of gathering and other sundry expenses, such as mending baskets, etc., brings the total cost of harvesting to about 7 paras the oke, or $5.55 per ton.

DISPOSITION OF FRUIT.

Of the olive trees in this district about 20 per cent are under seven or eight years old, the remaining 80 per cent being matured trees. The latter as a rule bear fruit annually, but the crop is more abundant every second year, the quantity obtained being from 10 to 120 okes, according to age and size.

Only about 10 per cent of the crop is crushed for oil, the olives used for this purpose being partly green and which have dropped from the trees before being ripe; the remaining 90 per cent is pickled or salted. Green olives are not generally gathered for pickling, unless ordered, though every proprietor usually gathers sufficient for family consumption.

The cost of pressing the olives is 5 paras the oke, or 100 piasters ($4.07) per ton; but this is not the total cost, for according to custom the millers retain the residue. Of the latter only a small portion is used by the millers as fuel, the greater part being exported to Great Britain; the price paid on the spot for the residue is 4 paras the oke, or 80 piasters ($3.26) per ton.

The quantity of oil obtained depends on the size and quality of the *olives to* be crushed. In some instances 3½ pounds of olives yield 1 *pound of oil; in other* cases it requires 8 pounds of fruit to produce

the same quantity of oil; thus from 283 to 650 pounds of oil are obtained from 1 ton of olives.

OIL PRICES—PICKLING METHODS.

The price of olive oil has for years past ranged from 4 to 6 piasters (16 to 24 cents) the oke, or from $130 to $195 per ton. This season, however, it rose to 8 piasters (32 cents) the oke, or $260 the ton.

For pickling or salting olives properly for every 100 pounds of fruit 100 pounds of dry salt must be added. In pickling the barrels are placed in the position where they are to remain, though in no case should they touch the ground or floor. The bottoms are covered with a layer of dry salt; on this a layer of 100 okes (283 pounds) of olives is placed. Ten okes (28.3 pounds) of dry salt is spread over the fruit, and so on alternately until filled. A mat is placed on the top layer (which must always be of salt), then boards (that will easily enter), and on these stones or any other heavy material weighing at least 12½ hundredweight are placed. Should this precaution not be taken, the olives will rise to the top of the barrel, become dry, and spoil.

A basket containing 56.6 pounds of dry salt is placed on the top of each barrel and sea water, if obtainable, poured over the salt in the basket until filled with brine.

It is essential that the barrels containing the pickled fruit should be examined every fifteen days, and should it be found that the olives are not covered with brine, the same operation is repeated until the barrels are refilled; otherwise the fruit becomes "fusty" and useless.

Should sea water not be obtainable, a large barrel is filled with fresh water, to which dry salt is added and stirred until the brine becomes of the required strength. This latter is ascertained by placing an olive or a fresh egg in the liquid; should it sink, it is evident that more salt is needed and should be added and the liquid stirred until the object rises to the top and remains floating on the surface, a sure proof that the brine is of the required strength. As a rule, a large barrel of such brine is always kept in stock, which saves time and trouble.

DUTCH EAST INDIES CROPS.

ISLANDS' PRODUCTION OF COFFEE AND SUGAR LAST YEAR.

Consul B. S. Rairden makes the following report from Batavia on the production of coffee and sugar in the Dutch East Indies during the past three years:

The Java sugar output in 1907 amounted to 1,282,705 tons, against 1,133,525 tons in 1906 and 1,110,459 tons in 1905. Soerabaya is the largest producing district, turning out 286,296 tons last year, an increase of 42,764 over the previous season. Probalingo advanced from 160,288 to 186,459 tons and Djocjakarta from 89,562 to 103,841 tons.

A large reduction in the coffee crop of the islands of Java and Sumatra for last year is shown in the following table:

Variety.	Private.			Government.		
	1905.	1906.	1907.	1905.	1906.	1907.
	Pounds.	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*
Java	23,747,928	35,958,808	15,492,576	14,307,432	22,215,464	5,804,816
Liberia	13,047,620	11,142,072	13,710,432	2,005,822	2,598,008	2,439,004
Total	36,795,548	47,100,880	29,203,008	16,313,254	24,813,472	8,243,820

IRRIGATION PROJECTS.

FORMOSA.

LARGE EXPENDITURES TO BE MADE TO BENEFIT AGRICULTURE.

In reply to a communication from the editor of a Manila journal concerning irrigation in Formosa, Consul Julean H. Arnold, of Tamsui, transmits a report, from which the following information is taken:

The irrigation works which begin this year, and which will extend over a period of eighteen years, involve an expenditure of nearly $15,000,000.

The problem of irrigation is chiefly concerned with the plains which make up the western half of Formosa. With a proper system of irrigation, the southern half of the western lowlands should be able to supply Japan with all the sugar it consumes, about 500,000 tons, which is sevenfold the amount now produced in this island, and with the same proper system it is estimated that the island's present rice fields could produce 50 to 75 per cent more than is now produced, in addition to which 100,000 acres, now nonproductive for lack of irrigation, could be converted into rice fields.

The chief of the bureau of public works states that the works now contemplated provide for an expenditure of 22,544,000 yen ($11,226,912) for canals and reservoirs; 3,769,000 yen ($1,876,962) for power stations; 123,050 yen ($61,279) for expenses and surveys; 200,000 yen ($99,600) for buildings; 3,363,950 yen ($1,675,247) for salaries; total, 30,000,000 yen ($14,940,000).

IMMENSE DAMS TO BE BUILT.

In addition to twelve main canals, of an aggregate length of 295 miles, a dam of 90 feet high and 1,800 feet in width will be constructed on the upper Taikokan River, where it will be possible to store 7,000,000,000 cubic feet of water, and near the mouth of the lower stream another dam will be constructed, from which will lead a canal 45 miles in length. A dam 90 feet in height and 1,140 feet in width will be constructed in the upper course of the Nisoko where 3,270,000,000 cubic feet of water may be stored, and from which a canal 50 miles in length will lead. These two dams will provide sufficient water to irrigate 48,000 and 50,000 acres, respectively. The main canals will aggregate 390 miles in length, and the branch canals 1,560 miles. The total area to be irrigated will be 286,383 acres.

It is estimated that after ten years the government's annual revenue from water taxes, charges for electric power, and land taxes will be increased to 1,880,000 yen ($936,240) as a result of these irrigation works, and that at the end of twenty years, at which time the entire works will be completed, to 3,470,000 yen ($1,728,060). The aggregate receipts for the twenty years, beginning with this year, are estimated at about 38,000,000 to 39,000,000 yen ($18,924,000 to $19,422,000).

OTHER PUBLIC WORKS UNDER CONSTRUCTION.

Besides irrigation works, there are many public works now being constructed.

In north Formosa: Keelung, harbor improvement to cost $3,000,000; *waterworks for* Taihoku, $946,000, and an electric generating

plant at the same place, $731,000; construction of buildings for the Formosa Central Laboratory, $256,000; Agincourt Island light-house, $111,000; building for middle school for Japanese, $92,000.

In south Formosa: Takon, harbor works, $2,357,000; railway extension work, $996,000; post and telegraph office at Tainan, $51,000. On the Taito Railway $2,120,000 will be spent during the next four years, and the Formosan Government railways will spend $1,245,000 during the next two years in construction work.

[Further details and photographs of the irrigation works of Formosa, which were furnished by Consul Arnold, may be consulted at the Bureau of Manufactures.]

MEXICO.

SUBSIDIZED IRRIGATION CONTRACTS SIGNED BY THE GOVERNMENT.

The first contract made by the Mexican Government under the new irrigation law since its enactment, according to the Mexican Herald, has just been signed by Minister Olegario Molina, of the fomento department, and Diego Redo, of Mazatlan, who obligates to build all the necessary works for the use of the waters of Rio San Lorenzo in the State of Sinaloa, sufficient to irrigate an area of 10,000 hectares (hectare=2.47 acres) of land within ten years. Each hectare to be supplied with not less than 10,000 cubic meters of water per year. The Government will grant a subsidy of $25 ($12.50 gold) per hectare of irrigated and cultivated land.

BRITISH INDIA INDIGO.

THE PLANTERS ARE HOPEFUL OF SAVING THEIR INDUSTRY.

In supplying the following information concerning the protection of indigo in British India, Consul-General William H. Michael, of Calcutta, reports that while the crop of 1908 is not as encouraging as it might be, the hope of saving the industry is not lost by the planters.

The total amount of indigo marketed in the fiscal years ended March 31, 1907 and 1908, was 2,240,000 and 2,180,000 pounds, respectively. These figures show a falling off of 60,000 pounds in the fiscal year 1908, but the season was droughty for all crops, and but for irrigation the indigo crop would have been a complete failure.

The strike on the East Indian Railway interfered with prompt delivery of indigo in the Calcutta market, and sales were therefore limited. In fact the large Russian demand went by, and buyers for that country went to the London stock, thus causing the prices, which were good early in the season, to depreciate. The planters were therefore driven to the necessity of shipping to London and consigning to their own account. The demand of England and the United States for middling quality slackened, as did also the continental demand for high-grade indigo, and as a consequence the India producers were placed in an unfortunate position.

The experience of indigo planters satisfies them that, for the present at least, the demand for natural indigo will be for purposes to which the synthetic dye can not be applied. During the six years ended March 31, 1908, the decline in the amount of indigo exported

from India was 80 per cent in quantity and 84 per cent in value—from 8,975,000 pounds, valued at $6,174,188, in 1902, to 2,180,000 pounds, valued at $2,334,924, in 1908. Despite this great falling off, however, the indigo planters are hopeful. The belief is prevalent among them that careful selection of seed, improved methods of cultivation, and a more scientific method of extracting the indigo will enable them to undersell the artificial article and thus restore the product to its former importance.

WORLD'S COTTON PRODUCTION.

SLIGHT DECREASE SHOWN IN THE OUTPUT FOR LAST YEAR.

The cotton production of the world for mill consumption is covered in statistics issued by the Census Bureau. The output in bales of 500 pounds each was 16,512,185 in 1907, compared with 19,942,000 for 1906, with 15,747,000 for 1905, and 18,803,000 for 1904. The details for last year are as follows:

Country.	Bales.	Country.	Bales.
United States	10,882,385	Turkey	80,000
British India	2,444,800	Peru	55,000
Egypt	1,296,000	Persia	51,000
Russia	620,000	Other countries	200,000
China	428,000		
Brazil	370,000	Total	16,512,185
Mexico	85,000		

TOBACCO.

CULTURE AND MARKETS.

NETHERLANDS.

REDUCED PURCHASES OF AMERICAN LEAF—SOURCES OF SUPPLY.

Consul-General Soren Listoe, writing from Rotterdam, describes present conditions in the vast Dutch tobacco business in which American interests are largely concerned, our imports from the Netherlands last year, consisting mainly of Sumatra wrappers, being over $8,000,000 in value and our sales there being also considerable. Mr. Listoe writes:

The consumption in Holland of the various kinds of American tobacco in hogsheads can only be estimated, official statistics thereof not being kept, and several manufacturers importing tobacco for their own use, of which transactions no record appears. [The exportation of unmanufactured tobacco from the United States to the Netherlands during the past three calendar years has been as follows: In 1905, 20,351,773 pounds, valued at $1,213,341; in 1906, 20,332,611 pounds, valued at $1,433,253; and in 1907, 17,844,143 pounds, valued at $1,314,218. A further decline in shipments to the Netherlands has occurred this year, the amount going forward up to May 1 being 3,733,019 pounds, worth $265,078.—B. of M.]

The consumption of Maryland tobacco has lately fallen off considerably. According to the particulars which have been furnished me by one of the largest tobacco brokers in Rotterdam, and which are very nearly accurate, I should judge that against about 10,000 hogsheads of Maryland in 1905, there now stands about half that quantity. The consumption of Virginia is rather small, being estimated at 1,500 hogsheads, and of Ohio next to nothing.

CONSUMPTION OF BURLEY DECLINES—JAVA SUPPLIES.

Of burley the consumption was considerable as long as the prices were in keeping with those of other light-colored tobaccos, but is now very much reduced and probably does not much exceed 1,500 hogsheads of burley and Kentucky together.

The great rise in prices of Maryland tobacco and also of burley has induced manufacturers all over Europe to look for substitutes, which are to a certain degree not very difficult to find, Eastern Colony varieties as well as Paraguay being largely used for burley, while for Maryland a great substitute is found in Java tobacco.

Of this latter variety there was twenty years ago (in 1888) imported into Holland 138,000 bales, ten years later (in 1898) 266,000 bales,

and since then this importation has continually increased. In 1907, 516,000 bales were imported, while this year the imports will reach nearly 600,000 bales, over 400,000 bales having already been sold. Java tobacco consists partly of cigar tobacco and partly of cutting tobacco, the proportion last year having been about 186,000 bales of the cigar-class goods, wrappers and bunch, which realized 47½ Dutch cents per half kilo (kilo=2.2 pounds), equal to 19 cents American per 1.1 pounds; and about 330,000 bales of the common varieties used partly for cheap fillers but mostly for cutting purposes, these classes having realized 19½ cents Dutch per half kilo, equal to nearly 8 cents American per 1.1 pounds.

The cost of production varies according to the different districts in which the tobacco is raised. In some districts where the better cigar tobaccos are grown there are large plantations which provide the seed and pay the natives a certain amount per 1,000 plants, grown mostly under supervision of European managers who further ferment, assort, and pack the tobacco for export. In the other districts very little care is taken, the natives growing and drying the tobacco and selling it mostly to Chinese buyers, either employees of European firms which ship the tobacco to Holland, or buying it for their own account and giving it to Java firms for consignment to Holland. The cost of production of these tobaccos must be very small, inasmuch as the prices obtained in Holland during the last five years were respectively 19½, 18, 17, 17¼, 15¾ cents Dutch per half kilo, which prices appear to satisfy the producers very well. Several lots thereof have even been sold at 11 to 12 cents Dutch per half kilo, or 4½ to 5 cents American per 1.1 pounds, without causing a loss. The tobacco culture is entirely free and does not receive any Government aid or encouragement.

VIRGINIA LEAF—HOME PRODUCT—IMPORTATIONS.

Virginia tobacco, on account of its strong flavor and substance, is more difficult to replace by other varieties. Still, on account of the high prices prevailing during the last two years manufacturers are trying gradually to use a little less by mixing some of the darker heavy varieties of Java with the Virginia. As the demand in Holland runs chiefly on light cutting tobaccos, and the use of chewing tobacco is comparatively small, Virginia leaf has never been bought in any great quantities in Holland.

If the price of American tobacco were raised still higher, say 20 to 30 per cent, its importation and consumption would undoubtedly fall off to a still greater extent.

The cultivation of tobacco in the Netherlands is of very little importance. It embraced in 1906 359 hectares, equal to 887 acres, the average crop being 2,000 kilos per hectare, or 1,800 pounds per acre. The total crop may be estimated at about 1,700,000 pounds. This tobacco is of an inferior quality, but being a fine thin leaf part of it is used for cheap cigars, mostly as bunch, and part for cutting purposes, and as such competes little with American tobacco.

The market value averaged in former years 5 cents (American) per pound, the total crop thus representing about $85,000 annually, but owing to the present condition of the market the price is to-day 7 cents per pound.

The Netherlands Government furnishes the following statistics of the importations of tobacco for consumption into the Netherlands during the past three years:

Origin.	1907.	1906.	1905.
	Pounds.	*Pounds.*	*Pounds.*
American	16,192,000	18,279,800	18,108,200
European	2,549,800	2,992,000	3,022,800
East Indian	21,621,600	15,932,400	12,603,800
From other countries	9,510,600	8,936,400	8,252,200
Cigars and cigarettes	313,355	248,600	224,594
Total	50,187,355	46,389,200	42,211,594

The import duty on tobacco in the Netherlands is 28 cents per 220 pounds and on cigars and cigarettes $16 per 220 pounds.

GENERAL REVIEW OF THE TRADE.

My report on commerce and industries in the Netnerlands for 1907 includes the following review of the tobacco trade:

The Dutch tobacco market, principally at Amsterdam, is pushing its way ahead and gaining in importance every year; the colonial tobacco is evidently the most energetic factor in this respect, and it is confidently expected that it will be able to maintain itself in future years. The consumption is steadily growing; the United States, for instance, reports an increase in consumption during the past year of 315,000,000 cigars, 256,000,000 small cigars, 1,374,000,000 cigarettes, 14,000,000 pounds of smoking and chewing tobacco, and 700,000 pounds of snuff; while the consumption of Great Britain, as in the past three years, again increased over 5,000,000 pounds.

On account of their increasing consumption the United States have every year less of their own tobacco to spare for export, and hence European countries are looking for a substitute for the same, which they are evidently finding in the Java tobacco; and thus can be explained that a crop of 516,000 packages could find ready purchasers at figures considerably higher than were obtained in former years when the Java crop amounted to less than half of the present one.

JAVA AND SUMATRA SALES PRICES.

The total sales and average prices at which the Java crop was sold during the past year may be specified as follows:

Variety.	Packages.	Price per half kilo.	Variety.	Packages.	Price per half kilo.
Besoeki leaf	45,676	$0.228	Rembang krossok	83,722	$0.049
Besoeki krossok	109,621	.117	Kedoe krossok	21,608	.069
Soerak. and Djokak. leaf	82,507	.208	Banjoemas leaf	1,148	.188
Pasoeroean (Loemadj.) leaf	33,993	.147	Banjoemas krossok	6,981	.092
Pasoeroean krossok	42,287	.082	Semarang leaf	581	.101
Kediri leaf	9,482	.099	Semarang krossok	3,709	.07
Kediri krossok	79,135	.058	Preanger leaf	42	128
Pasoeroean (Malang) leaf	2,135	.109	Preanger krossok	652	.065
Pasoeroean krossok	42,657	.064	Total	515,986	

The average price was 11.8 cents per half kilo, thus footing up a total value of $10,800,000, against $9,000,000 for the previous year's crop.

The general outlook for Sumatra tobacco was favorable at the beginning of 1907, and the expectations were fully realized; notwith-

standing the crop was 246,830 packages, or 23,000 packages more than the preceding one, the average price was 2 cents per half kilo higher; the whole 1906 crop was sold in 1907 for $24,400,000, against $21,700,000 in 1906. The Sumatra receipts and sales at Amsterdam were as follows:

From—	Packages.	Price per half kilo.	From—	Packages.	Price per half kilo.
Deli	87,211	$0.692	Bedagei	6,083	$0.576
Langkat	66,904	.652	Padang	8,410	.644
Serdang	38,284	.538	Batoe Bahra	7,005	.474
Asahan	10,198	.612			

The receipts and sales at Rotterdam were 18,801 packages, at $0.732 per kilo, from Deli, and 1,324 packages, at $0.49, from Padang.

The 1907 crop, which will be marketed in the current year, is estimated at 260,000 packages, of which the later sorts especially are said to be of good quality.

The importation and consumption of Maryland, Kentucky, and Virginia tobacco fell off considerably, owing to the high prices ruling in the United States, caused by the two successive small crops of Maryland, while it must also be recorded that bad packing caused many difficulties and much disappointment to purchasers.

FRANCE.

IMPORTATION, MANUFACTURE, AND SALE OF TOBACCO A MONOPOLY.

Consul-General Frank H. Mason, of Paris, furnishes the following report covering the production, import, manufacture, export, and sale of tobacco in France:

The importation, manufacture, and sale of tobacco in France is a strictly maintained Government monopoly, from which the State derived in 1906—an average year—a revenue amounting to 482,283,178 francs ($93,080,653). Tobacco leaves and stems are imported free of duty by the Government, but their importation by private firms or individuals is prohibited.

The importation of manufactured tobacco in any form—cigars, cigarettes, smoking tobacco, etc.—is limited to 10 kilos (22 pounds) per annum, which may be imported by a person for his own use, under special permission to be obtained from the minister of finance. When imported for personal use cigars and cigarettes are subject to a duty of 50 francs per kilo ($9.65 per 2.2 pounds); snuff, chewing and smoking tobacco, 15 francs per kilo ($2.90 per 2.2 pounds), with the exception of Turkish tobacco, which pays a duty of 25 francs per kilo ($4.82 per 2.2 pounds). The quantity imported under these conditions by individuals is inconsiderable, and the great bulk of the importation, as well as the entire manufacture and sale of tobacco in France, is handled by the "régie," or Government bureau maintained for that purpose.

ANNUAL IMPORTS.

The imports of tobacco and tobacco manufactures into France in 1906 were as follows:

Leaf tobacco and stems, 68,712,817 pounds, valued at $6,382,383, of which 34,167,102 pounds were imported from the United States; the other principal countries from which imports were received

being as follows, in pounds: Algeria, 7,978,456; Germany, 7,428,032; Austria-Hungary, 4,334,759; Russia, 3,280,341; Turkey, 2,550,922; Holland, 2,275,484; Dominican Republic, 1,963,775; Philippines, 1,381,719; Belgium, 762,245; Haiti, 576,111; Argentina, 530,343.

Cigars, 1,241,935 pounds, valued at $1,134,911, of which 22,900 pounds were imported from the United States and 123,430 pounds from the Philippines. The principal sources from which cigars were imported were Switzerland (454,311 pounds), Cuba, Holland, etc.

Cigarettes, 635,065 pounds, valued at $683,600, imported from Algeria (427,966 pounds), Turkey, Egypt, etc.

Snuff, plug, and other manufactures, 2,098,294 pounds, valued at $788,889, imported chiefly from Algeria, Holland, Belgium, and Germany.

Tobacco juice, 101,178 pounds (value not given); imported from Switzerland.

Total imports 72,789,289 pounds, valued at $8,989,783.

EXTENT OF EXPORTS.

The exports of tobacco and manufactures from France in 1906 were as follows:

Leaf tobacco and stems, 13,812,642 pounds, valued at $1,337,191, exported chiefly to Germany, Algeria, Portugal, United Kingdom, Switzerland, British Colonies, Holland, Tunis, and Belgium.

Cigars, 680,704 pounds, valued at $430,422, exported to Australasia, Algeria, United Kingdom, Indo-China, Egypt, Turkey, etc.

Cigarettes, 641,459 pounds, valued at $752,425, exported to Indo-China, Belgium, Switzerland, United Kingdom, China, Guadeloupe, etc.

Snuff, plug, and other manufactures, 3,759,895 pounds, valued at $1,695,989, exported to free zones (1,073,191 pounds), Indo-China (880,862 pounds), Morocco, Germany, Algeria, St. Pierre, Madagascar, United Kingdom; sold to French marine 312,345 pounds, and to foreign vessels 83,311 pounds.

Tobacco juice, 166,861 pounds, valued at $7,219, exported to Algeria, United Kingdom, Uruguay, etc.

Total exports, 19,061,553 pounds, valued at $4,223,246.

HOME-GROWN FRENCH TOBACCO.

The cultivation of tobacco in France is carried on under very strict regulations and supervision by the Régie. Every citizen is allowed to grow in his garden, for decorative purposes, two tobacco plants. If he grows more than that he must declare his intention, obtain a license, and register the number of plants that he wishes to cultivate. When grown, the only purchaser to whom he may sell his stock is the Government, which fixes the price to be paid.

The cultivation of tobacco in France is not increasing, but is rather on the decline. It is grown to some extent in nearly every department, but the bulk of the crop is produced in five departments, viz: Dordogne, 3,705 hectares (hectare=2.47 acres); Gironde, 1,627 hectares; Isère, 1,642 hectares; Lot, 1,958 hectares, and Lot-et-Garonne, 3,399 hectares. The crop of 1906, grown on 16,359 hectares, yielded 36,349,160 pounds, as compared with an average annual yield of 49,855,740 pounds during the last ten years.

The Government gives to the growers of tobacco the same recognition and encouragement accorded to farmers who grow wheat, pota-

toes, and other products, but beyond purchasing the leaf, at its own price, it offers no bounty or other artificial stimulant to specially encourage the culture of tobacco in France. There is nothing in the record of recent years to indicate that the supply of home-grown French tobacco will, either in respect to quantity or quality, become more formidable than it has been hitherto as a competitor with the better grades of tobacco from the United States.

Raw tobacco is purchased in the United States for the régie by Government agents, who make frequent visits to the leading markets and who are usually in close touch with the French consulate for the city or district in which the transaction takes place.

RÉSUMÉ AND CONCLUSIONS.

An analysis of the statistics given in the foregoing tables shows the following facts:

First, that the importation of raw tobacco leaf and stems into France increased from 55,720,614 pounds in 1896 to 68,712,817 pounds in 1906.

Second, that the United States supplied in 1896 28,524,839 pounds, or 51.1 per cent of the whole, while in the year 1906 it supplied 34,167,102 pounds, or 56.2 per cent of the total quantity imported.

Third, that three countries which supplied part of the imports of 1896, viz: Italy, British India, and Brazil, fell wholly out of the competition in 1906, and their places were taken by three other countries, viz: Haiti, the Dominican Republic, and Argentina. This shows that the three last-named countries are endeavoring to gain a foothold for their leaf tobacco in the French market.

Fourth, it is also shown that the competition of native French tobacco is not increasing, the crop of 1906—the last year fully reported—being the smallest gathered in any season during the past ten years.

Thus far, therefore, it can not be said that the tobacco of any other country is being substituted to any serious extent in France for the American product, but this would naturally ensue if any important and permanent advance in the price of American tobacco should be made and maintained.

DECREASED IMPORTS OF AMERICAN PRODUCT.

PROBABLE RESULTS OF ANY MATERIAL INCREASE IN PRICE.

In reply to an inquiry from a Virginia correspondent as to the probable effect in France of an increase of 20 to 30 per cent in the price of American tobacco, Consul-General Robert P. Skinner, of Marseille, writes as follows:

The probable effect of such a material increase in the price of American tobacco, unless clearly justified by general crop conditions, would be to accentuate the present tendency in France to procure supplies in other countries. In five years the only substantial increase in importations of American tobacco occurred in 1905, and this increase just about measured the shortage in importations from Algeria. The disposition seems to be to decrease importations from the United States, while increasing them from other countries.

It must be remembered that American exporters are dealing with *an absolute Government* monopoly, and that if prices in the United

States should advance too rapidly the monopoly is free to buy in the cheapest available market, and may be expected to do so, to the extent that the substitute tobaccos do not interfere with the volume of consumption and consequent revenue which the Government expects to derive from this enterprise. This is equally true of other European governments which control the tobacco business. The French Government is further committed to the policy of developing its colonies in every possible manner, and, other things being equal, will give their tobaccos the preference.

It must not be supposed that advanced farming methods are not being employed in remote tobacco-growing countries. A gentleman very extensively interested in tobacco and sugar plantations in Java informs me that the application of modern methods enables that island from year to year to increase the average production per acre. This particular exploitation deals with an immense area of land, where the labor supply is entirely satisfactory, and where the very latest devices are used for the handling of the crops. Sugar cane is converted into refined sugar ready for the market, and leaf tobacco is handled with equal care. A high-salaried agricultural chemist is employed, and a profitable market is found for everything produced.

DENMARK.

REQUIREMENTS OF THE MARKET—IMPORTS AND EXPORTS.

Consul-General Frank R. Mowrer, writing from Copenhagen, says that in Denmark the tobacco business is carried on as any other retail business, in that practically all of the stock in the shops is imported and there is no internal revenue tax imposed or license required to sell tobacco. Mr. Mowrer continues:

There is no government aid or encouragement for the production of tobacco. Relatively very little tobacco is grown in Denmark, the amount reaching only about 100,000 pounds, none of which is of a superior quality and all of it used solely for "long smoking"—that is, in a pipe with a very long stem. None of the tobacco imported from the United States is used in this way, consequently no native tobacco is used as a substitute for American export types of tobacco. Virginia tobacco is used for short-pipe smoking and that from Kentucky, or "roll tobacco," for chewing.

The cigars manufactured in Denmark are made from Brazilian and Java tobaccos. No cigars are manufactured from American tobacco, because it is considered too strong. American cigarettes are imported, but no cigarettes are manufactured. In recent years most of the cheap cigarettes are imported from Russia, and the better cigarettes are Egyptian, made from Turkish tobacco, or a high grade of English cigarettes, in the manufacture of which some American tobacco is used. The consumption of cigarettes has, during the last ten years, increased from about ten millions to about one hundred millions annually.

FOREIGN TRADE—NEW TARIFF RATES.

The chief importation of tobacco is from Hamburg, Bremen, and Amsterdam, which are the principal distributing centers. It appears that the large dealers in these cities pay cash for American tobaccos and sell to Danish dealers on credit. Denmark's foreign trade in

tobacco is shown by the following statistics, which show that Germany furnishes the largest share of the imports, while Sweden is the best customer for Danish tobacco. The imports from the United States are given, though those from Holland are much larger, the latter averaging nearly 2,500,000 pounds of leaf during the past three years. Russia now also supplies considerable tobacco to Denmark, the total in leaf increasing from 50,294 pounds in 1904 and 18,630 pounds in 1905, to 478,557 pounds in 1906. The statistics follow:

Article.	Imports.						Exports.	
	From Germany.		From United States.		Total, all countries.		To Sweden.	To all countries.
	1905.	1906.	1905.	1906.	1905.	1906.	1906.	1906.
	Lbs.	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Leaf	7,638,406	8,010,310	347,553	604,029	10,662,266	11,889,307	834,044	1,173,877
Cigars	127,332	139,845	.....	4	364,497	404,617	35,542	65,086
Smoking tobacco and cigarettes	163,839	89,904	139,816	92,404	789,557	781,095	41,958	126,314
Chewing	853	995	177	193	3,362	2,904	4,750	263,939
Snuff	29	2,097	.....	.....	61,960	67,178	11,466	69,896
Total	7,930,459	8,243,151	487,546	696,630	11,881,642	13,145,101	927,760	1,699,112

The customs duties on tobaccos have been increased and went into effect on May 7, as follows:

Description.	Former duty (per half kilo.[a]).	Present duty (per half kilo.[a]).
Leaf tobacco	$0.0402	$0.0857
Cigars	.2251	.2948
Cigarettes	.05628	[b].0857

[a] Kilo=2.2 pounds. [b] Plus 30 per cent ad valorem.

UNITED KINGDOM.

EFFORTS TO GROW TOBACCO IN IRELAND CONTINUED.

With reference to the production of tobacco in the United Kingdom, Consul-General Robert J. Wynne, of London, says that, with the exception of Ireland, no tobacco is grown or produced in that country. He transmits a copy of the Irish tobacco act of 1907, which repealed the law prohibiting the growing of tobacco in Ireland. and writes:

In the general report of the department of agriculture for Ireland, issued 1907, it is stated that the experiments in the growing and curing of the tobacco crop were continued in 1906. These experiments were conducted under the special sanction of the board of inland revenue, with the object of determining the commercial possibilities of tobacco cultivation in Ireland. In order to facilitate the experiments, which involved a somewhat large expenditure, a rebate of one-third the duty levied on tobacco was allowed to the growers. The experiment at Tagoat, County Wexford, was worked on cooperative lines, eleven farmers cropping about one acre each, the tobacco being cured in one barn.

Curing barns were provided by the department at three centers, viz: Navan, Tullamore, and Tagoat. Experiments were continued at these centers, the area under crop being about 44 acres. In addition to these centers sanction was also granted in five cases where the growers undertook to provide at their own expense suitable accommodation for the curing of the leaf. Thirty-three acres were cropped by these growers.

REBATE PERIOD EXTENDED—TOTAL IMPORTS.

The season on the whole was reported to be favorable to the growth of tobacco, and the crop was successfully harvested at all the centers. The cured leaf will not, however, be marketed for sometime, so that the financial results can not be stated. In order to allow experiments to be carried to a conclusion, the chancellor of the exchequer consented to extend to ten years the period of five years originally granted, during which the rebate of duty will be allowed on tobacco grown for experimental purposes.

With regard to the imports of tobacco of various kinds into the United Kingdom from the United States and from other countries, the following statistics for 1907 are available:

Description.	United States.	Other countries.
Unmanufactured:	*Pounds.*	*Pounds.*
Stemmed	46,851,255	2,087,881
Unstemmed	39,567,929	10,556,766
Manufactured cigars	940,775	587,527
Cavandish and negrohead	1,118,302	135,568
Cigarettes	15,947	329,437

It is seen that, with the exception of cigarettes, the vast majority of tobacco imported into England is received from the United States. The preponderance of cigarettes received from countries other than the United States is due to imports of Turkish, Russian, and Egyptian blends, the trade in this article from the United States having fallen off owing to the failure a few years ago of an American attempt to control this market.

NORWAY.

THE REASON WHY MORE AMERICAN LEAF IS NOT SOLD.

One of the largest importers in Norway of American leaf tobacco has brought to the notice of Consul Felix S. S. Johnson, of Bergen, reasons why Norwegian tobacco manufacturers prefer to purchase their tobacco from Germany rather than from the United States, concerning which the consul writes:

The importer said that during the past few years the American leaf tobacco was dried by means of steam instead of being hung up and allowed to be dried by air; that many cases had been packed while wet, causing fermentation, and shipped to Europe; the rejected cases were then shipped to other European ports to be sold for what price the goods would bring. Most of the Norwegian manufacturers purchased the American leaf tobacco through Bremen commission houses whose salesmen visit these parts once or twice a year; they

have with them samples and allow a credit of some months; if the goods arrive in a damaged condition, or not as ordered, they are refused and shipped back to Germany.

As large quantities of American tobacco are used in the Norwegian factories, it would be worth the while of American producers or exporters to make direct sales to the factories here instead of having it to go through the commission houses in a third country. The system of requiring cash payment before shipment is made should be changed, for if goods arrive in a damaged condition the importer has no other recourse but to accept them, very seldom receiving an allowance from the American exporters for his loss.

ITALY.

EXPERIMENTAL FARMS IN THE PROVINCE OF FERRARA CONTINUED.

The results of the experiments of tobacco cultivation in the province of Ferrara, northeastern Italy, in 1906 and 1907, by the Societa Agricola La Codigoro have been published, from which Consul D. R. Birch, of Genoa, has prepared the following summary:

An experimental field prepared in the commune of Codigoro in 1906 was limited to 12½ acres of ground, but the necessary dry house erected was suitable for a much greater cultivation. The total expenditures for the trial exceeded 100,000 lire ($20,000). The first experiment in 1906 was considered of much advantage, therefore in 1907 the area of cultivation was increased to 42 acres, situated in several different localities, according to the exact provisions included in the concession given by the Government. The result of this second experiment, however, was not as good as that of the first year, but this partial failure is said to have been due to causes not connected with the question of the availability of the soil for tobacco cultivation.

It is announced that the project will not be abandoned, as faith in the possibilities of the soil of Italy is still strong enough to warrant further experiments. In fact, another company, known as Societa Grande Bonifica, has prepared about 300 acres of land for a much more extensive experiment in tobacco planting.

KOREA.

COMPETITION OF ORIENTAL AND OCCIDENTAL INTERESTS.

Consul-General Thomas Sammons, writing from Seoul, says that of the foreign tobacco consumed in Korea the United States is credited with furnishing the largest per cent. His details of the trade follow:

Korean customs returns show that tobacco importations, mostly cigarettes, into Korea amounted to $583,393 in 1905, $550,880 in 1906, and $545,274 in 1907.

It is estimated that Korea, with a population of 20,000,000, consumes 840,000,000 cigarettes annually, about 40,000,000 being contributed monthly by Japan, as shown by the estimates furnished by experts. The balance are composed largely of Virginia leaf tobacco and are manufactured mostly at Shanghai and also in the United *States and England*. The bulk of these cigarettes retail at the rate

of 10 for 1 gold cent for the cheapest varieties. This would place the lump retail valuation of Korea's annual "paper-tobacco" smoking at $840,000. Korean pipe smokers are apparently in the majority, however, and are far more numerous in public than those who use tobacco wrapped in paper.

NATIVE HABITS—JAPANESE RESIDENTS AND ACTIVITY.

It may be said that old Korea smokes a long-stemmed native pipe having a metal bowl somewhat larger than a woman's thimble. Formerly the stems of these pipes were so long in fact that a servant was required at the far end to apply the match. New Korea prefers a cigarette. While it is not possible to estimate the value of the native tobacco consumption in Korea, it is known to be large. In 1907 Korea exported a small quantity of tobacco valued at $2,290, an increase over 1906 of $1,921 and over 1905 of $2,137.

With the foregoing facts and figures in mind, estimating the Japanese population of Korea during 1907 as upward of 100,000, knowing that the local tobacco monopoly is actively pushing its tobacco trade in Korea and assuming equal commercial opportunity, the following may serve as a valuable index to those who seriously desire to participate in the trade of the Orient:

DIVISION OF TRADE.

American-British tobacco enterprise already has over 40 per cent of the total cigarette business of Korea. It also has over 50 per cent of the entire Manchurian import trade and controls the great bulk of all the business of the Orient in this particular line outside of Japan.

What business success this occidental company has met with in the Orient is largely due to its energetic business methods and its system of carrying stocks in the field of its commercial operations. The company has in the oriental field a staff of active, up-to-date American and British commercial salesmen, many of whom speak the native language and under whom many native salesmen are employed. In introducing goods the prevailing conditions are studied and suitable advertising matter, 15 by 30 inch posters or dodgers, are utilized or sample packets of cigarettes are given away. Where retailers are not anxious or willing to push sales, hawkers are employed to drum up trade. A printing plant is maintained, in which modern American color presses are used to prepare suitable advertising matter with the text in native characters, pictures being designed to suit local conditions.

Another feature of the company's methods is to impress upon the consumer through its advertising department the exact size, shape, and color designs of its packages. The wording of its advertising matter follows oriental and not occidental tastes and ideas in attracting and pleasing the consumer. The demands of the trade are studied intelligently and supplied as actual conditions require and not as the seller may think the buyer would or might prefer.

EASY PURCHASING FACILITIES.

Back of these essential details, and of greater practical importance to the successful marketing of goods, is the simple system of carrying stocks in warehouses where the dealer can obtain what he desires without delay, with no letter writing and, to him, annoying

preparation of drafts and remittances. All the dealer has to do in Korea or China is to go to a bank or other authorized agent, pay the fixed price for one or more cases containing 15,000 cigarettes, and receive a warehouse order for the goods. This order is honored at the warehouse and may be used as a check on the bank or agent, the latter remitting direct to headquarters.

CLASSES OF CIGARETTES USED.

Forty-five per cent of the Korean cigarette trade is in the paper mouthpiece, or Russian style, of which it is estimated that the Japanese tobacco monopoly has thus far supplied 90 per cent. Much hand labor is necessary in the production of these cigarettes, and should the occidental tobacco rival produce by mechanical devices cigarettes with a mouthpiece attachment, their already large per cent of the trade would be materially increased. A careful study has been made of this feature of the Korean trade, with the result that this invasion of Korea with cigarettes made by machinery, with Russian or mouthpiece attachment, is promised for the immediate future.

This, coupled with the fact that the Korean field is now being more thoroughly exploited than has heretofore been the case, presumably will give the American-British competitors more than 50 per cent of the tobacco trade of Korea.

Of the remaining 55 per cent of sales in Korea, Japan now probably furnishes 15 per cent of the double-end or ordinary cheap and popular brands, while the remaining 40 per cent of this variety is almost wholly supplied by the American managers of the American-British tobacco interests.

The mouthpiece cigarette is largely used by Japanese, but it is not believed their attachment to Japanese-made cigarettes will prove unalterable, regardless of price or quality. Their patronage, however, is desirable from the standpoint of the cigarette manufacturer, because they consume enormous quantities of cigarettes. The young Korean gentleman is also a liberal patron of cigarette manufacturers. He frequently prefers Egyptian cigarettes costing half a gold cent each, or imitations of Egyptian cigarettes as sold by certain dealers and retailers. An effort is being made through French agents to market Turkish and Egyptian brands of cigarettes in Korea, and considerable success is being met with.

TRADE-MARKS—JAPANESE STATISTICS.

Where fraud has crept in for the purpose of reaping through imitation the legitimate revenues accruing from established trade-marks and special designs the necessary steps have been promptly taken to put an end to such procedure. Where the remedy is not to be had through recognized international channels, a class of goods has been introduced that is calculated to bring favorable returns if not interfered with by any restraints. Less energetic methods than those employed in pushing American tobacco to the front in the Orient would result, no doubt, in failure.

The estimates referred to are based on the Japanese tobacco monopoly exports of cigarettes, having been approximately 1,750,000,000 in 1905, 1,054,000,000 in 1906, and 1,271,000,000 in 1907, of which there was shipped to Korea 559,112,000, 463,317,000, and *462,903,000, respectively.*

SUGAR.

CROPS AND BY-PRODUCTS.

EGYPT.

GROWTH OF THE INDUSTRY—PRESENT FINANCIAL CONDITION.

Upon request of American interests, Consul-General Lewis M. Iddings, of Cairo, has prepared the following review of the sugar industry of Egypt:

The imports of sugar into Egypt in 1906 and 1907 were as follows, by country, weight, and value:

Country.	1906.		1907.	
	Tons.	Value.	Tons.	Value.
England	19	$1,518	10	$824
Germany	11,560	620,605	241	14,512
Austria	12,800	736,999	15,580	971,283
Belgium	3,226	175,509	80	5,496
China-Java	6,311	400,278	3,042	146,016
France	102	6,505	10	694
Holland	37	2,296	.....	.....
Russia	.4	20	4,535	250,459
Turkey	1	82	2	250
Total	34,056.4	1,943,812	23,500	1,389,534

The decrease in 1907 was 10,556 tons, valued at $554,278, due to the financial distress which prevailed in Egypt in that year. A small stock probably remained over from 1906, but in 1907 no traders bought beyond their actual wants. The statistics cover refined sugar, except that from Austria, which was beet sugar, and from China-Java, which was raw cane sugar, all for the Sucreries Company. The following tabulation shows the imports of refined and raw sugar for two years:

Description.	1906.		1907.	
	Tons.	Value.	Tons.	Value.
Refined sugar	14,945.4	$806,534	4,878	$272,234
Raw sugar	19,111	1,137,277	18,622	1,117,299

The refined sugar was for consumption and the raw sugar to be refined. It will be noted that the quantity of raw sugar imported in each year was about the same. The exports of sugar, all refined, in 1906–7, were as follows:

Destination.	1906.	1907.	Destination.	1906.	1907.
England	$46,165	$52,525	Turkey	$106,160	$73,205
Germany	1,350	2,256	Other countries	15,315	10,265
Belgium	1,735	2,385			
France and Algeria	42,825	41,440	Total	215,995	185,355
Italy	2,415	3,280			

Practically all this sugar was manufactured by the Sucreries Company. The shipments to France were candied sugar (rock candy)

to sweeten champagne, for which purpose it is especially esteemed. The decrease in exports indicates an increased domestic consumption. All the sugar exported was of domestic origin. The Sucreries Company sent 4,370 tons of refined sugar to the Sudan in 1906, and 5,993 tons in 1907.

CONDITIONS OF MANUFACTURE.

The sugar trade in Egypt is principally in the hands of a French company known as the Société Générale des Sucréries et de la Raffinerie d'Égypte, commonly called the Sucreries Company. This concern and two or three small private refineries take all the raw cane sugar raised in Egypt and refine it. As at present organized the Sucreries Company has only been working since 1905, and is not making much money. The sugar industry previous to 1905 was in the hands of a Government commission called the Daira Sanieh, which sold to the Sucreries Company its factories, but not its lands. The Daira Sanieh manufactured only raw sugar from the cane on their own lands, and this they sent to the United States. The Sucreries Company refines all the Egyptian raw sugar it can get. In 1905–6 (the fiscal year ends October 31) the company worked up 684,608 tons of cane and turned out 63,634 tons of raw and 46,619 tons of refined sugar; in 1906–7 the output from 414,877 tons of cane was 41,509 tons of raw and 31,144 tons of refined sugar. The richness of the cane in 1905–6 was 12.34 per cent, and in 1906–7 12.70 per cent. The company sold as follows:

Kind.	1905–6.		1906–7.	
	Tons.	Value.	Tons.	Value.
Refined sugar	30,456	$2,244,597	34,130	$2,591,966
Granulated sugar	6,208	392,411	11,657	739,759
Candied sugar	7,247	429,936	10,022	602,259
Total	43,911	3,066,944	55,809	3,933,984

LOCAL CONSUMPTION AND THE COMPANY'S OWN EXPORTS.

The local consumption in 1905–6 was 75,000 tons of refined sugar, and in 1906–7, 82,378 tons, two-thirds being furnished by the Sucreries. The company itself exported as follows:

To—	1905–6.			1906–7.		
	Sacks, 220 pounds each.	Tons.	Value.	Sacks, 220 pounds each.	Tons.	Value.
Red Sea	9,721	956	$78,973	11,119	1,094	$88,099
Persian Gulf	7,718	759	62,500			
Turkey	212	21	1,303	140	14	1,053
France (candied sugar)	2,405	237	22,464	5,033	495	45,817
Total	20,056	1,973	165,240	16,292	1,603	134,969

The cost of manufacture in 1906–7 was $5.046 for every sack of 220 pounds (2¼ cents per pound), against $5.002 for every 220 pounds (2¼ cents per pound) in 1905–6, the rise being due to the increased price of labor and raw sugar. This cost does not include the expenses of packing, etc., which are equal to 67 centimes ($12\frac{2}{10}$ cents) per sack of 220 pounds. The retail price of sugar in Cairo and Alexandria, *in the* shops, is: Brown sugar, 3⅜ cents per pound; white

cane sugar, granulated, 3⅞ cents; refined sugar in loaves, 3¾ cents; refined sugar in squares, 4.992 cents per pound; pulverized sugar, 4.599 per pound. The average sale price of the company was 38.74 francs ($7.48) in 1907, against 37.82 francs ($7.30) in 1906, per sack of 220 pounds.

DEVELOPMENT OF THE INDUSTRY.

To understand the conditions of the sugar trade in Egypt, it must be remembered that the cultivation of sugar cane was begun there in the reign of Ismail Pasha. He brought the cane from Jamaica in 1850, and the manufacture of sugar was begun in 1855. The Khedive's property later passed into the hands of a Government commission called the Daira Sanieh, which increased the number of factories. At that time the low price of cotton gave a great impetus to the cultivation of sugar cane. Only raw sugar was manufactured by the Daira, the greater part of which was sent to the United States to be refined; so that for its supply of white refined sugar Egypt depended upon France and Austria. In 1903, it had nine factories in Egypt—six in upper Egypt and three in lower Egypt. Land in upper Egypt was not then supposed to be fit for the cultivation of cotton.

Later the whole sugar industry of the country passed from the Daira to an English syndicate, and then to the French company. This company did not flourish—partly due to the fact that the high price of cotton influenced proprietors of land to stop raising sugar cane and to grow cotton, even in upper Egypt. The area devoted to suger cane was reduced in 1906 by one-half. In 1906 a reorganization of the company was brought about, and the company is now doing as well as could be expected. It is hoped that in time its undertakings will be profitable. It practically has the sugar industry of Egypt in its hands. Only four of its factories are now working.

NATAL.

PRESENT DEVELOPMENT AND IMPORTANCE OF THE INDUSTRY.

Consul Edwin S. Cunningham, writing from Durban on the Natal sugar industry, states that it is one of the most important in that South African colony, and that more money is invested in it than in any other branch of trade, excepting only coal mining, which possibly exceeds it by half a million dollars. The consul's details follow:

Sugar cane has been grown in the coast districts for a quarter of a century, but until the last ten or fifteen years the most primitive methods were used. About fifteen years ago Yuba cane was introduced into Natal, and during the past eleven years its culture has been carried on in a practical manner, to the exclusion of all other varieties. The industry has now grown to one of considerable importance.

The capital invested in the industry amounts to over $7,300,000, of which the amount in lands is $3,950,000; buildings and improvements, $925,000, and in machinery and plant, over $2,750,000. During the last eighteen months at least $975,000 has been invested in

machinery alone. Great interest has been shown in the industry during the most recent years, and local financiers have shown their faith in its future by investing their own money, as hardly $1,000,000 of the capital invested is foreign. Advanced methods of cultivating the cane are rapidly being introduced, and modern mills and a completely equipped refinery are taking the place of the out-of-date plants in several plantations, while all the old plantations are being improved and new machinery is being substituted for that formerly used.

NEW COOPERATIVE REFINERY.

Until recently it was the custom of the 34 mills to make and refine sufficiently for local consumption their own output. This is still the practice of many, but five of the largest have jointly subscribed to the stock of the South African Sugar Refineries (Limited), which has been put into operation at South Coast Junction, where the unrefined sugar from the mills of subscribers and others will be forwarded to be converted into as fine sugar as can be produced anywhere. The company has established an up-to-date refinery, equipped with the most modern sugar-making machinery, with a capacity of refining 100 tons daily. Standard qualities of sugar will be turned out, including cubes, crystal, granulated, etc., in addition to which golden sirup will be manufactured.

There were in 1906 40,022 acres in cultivation under European management, neither native nor Indian plantings being of any consequence. Practically the entire coast district of Natal is suited to cane culture, as the soil is very fertile and the rainfall generally is ample, being from 30 to 60 inches, for the deep-rooting Yuba cane. Replanting takes place every three or four years. The cane grows to a medium size, and the yield of sugar per acre in 1906 from all the lands harvested was 1.7 tons of sugar, though the yield on the best-conducted plantations is much greater.

In 1906 23,497 short tons of sugar, valued at $2,123,000, and 2,701,242 pounds of molasses were produced. The official statistics for 1907 are not yet available, but it has been estimated to have been 40,000 tons, or about 10 per cent of the Louisiana output, valued at $63 per ton. From the increased plantings it is safe to say that, under existing conditions, the annual yield is not likely to fall under this amount.

All the alcohol manufactured here and the methylated spirits, which are manufactured on a large scale, are by-products of sugar.

INDUSTRIAL PROTECTION.

For the purpose of protecting and advancing this important industry a substantial duty has been imposed. Prior to July, 1906, the duty on unrefined golden sirup, molasses, saccharine, and treacle was $17.03 per ton; when refined, $24.33 per ton. This was altered in 1906, when there was imposed the present duty of $24.33 per ton on candy, loaf, castor, icing, and cube; $17.03 on other kinds, including golden and maple sirup, molasses, saccharine, and treacle, excepting concentrated forms of saccharine and other sweetened substances, on which there is a duty of $4.87 per pound.

The duty prescribed by the Customs Union tariff does not fully *show the protection* afforded the industry, as it is further protected

by a preferential freight rate on government railroads of Natal and South Africa, as a South African product. As an illustration Natal sugar enjoys a preference in freight between this port and Johannesburg of $12.97 over the imported sugar, which resulted in 1907 in 26,226 tons, valued at $1,995,590 of the Natal product being shipped to the inland colonies for consumption, while in Natal the principal consumption is of the imported sugars.

It will be apparent that, although the sugar industry is one of great importance to the colony, it has been fostered by the levying of a duty on the imported article and extending to the domestic product such a substantial preference in freight that the withdrawal of either, without a corresponding benefit from the other, would be fatal to it.

THE LABOR QUESTION.

As a laborer on the plantations the native has until now been unsatisfactory. White labor, except for the more responsible posts, is unobtainable, besides being too expensive; and to meet these conditions Indians have been indentured for a term of five years, and it is quite probable that without this cheap labor the industry could not survive. In 1906, 7,565 persons of all races were employed in the cane mills and plantations. Of this number 203 were white, the remainder being chiefly indentured Indians. Of the 24,761 indentured Indians in Natal in 1907, 7,131 were employed on sugar estates.

The difference in wages paid to the Indian and white is not so great as one would suppose, as it has been reliably estimated that three-sevenths of the wages were paid to white and four-sevenths to colored. The whites are highly paid, which makes the term "cheap labor," as applied to the Indian, only relatively appropriate.

EXPORTS AND IMPORTS—AMERICAN MACHINERY OPENING.

Natal sugar and sugar products were exported to other colonies in South Africa in 1907 to the value of $2,031,223, and over sea to the value of $2,136. During 1906 (1907 returns not yet available) the United States exported to Natal sugar, $5,565; glucose and sirup, $5,550, and confectionery, $905.

During 1906 (1907 returns not yet available) the imports from the United States into the whole of British South Africa of sugar amounted to $63,947; glucose, $54,277; golden sirup, $258, and fancy confectionery, $1,888.

Although there is over $2,750,000 invested in sugar machinery and plant, very little of it is of American manufacture. Some have made diligent inquiry, with the intention of buying the most suitable plant wherever it could be bought at the least cost, with the result that they found American mills, etc., were more expensive than those made in the United Kingdom.

As improvements in equipment will continue as the industry increases in importance, I would urge American manufacturers of sugar machinery to put themselves in a position successfully to compete with the prices and equipments offered by manufacturers in other countries. In this line I am of the opinion that catalogues and other literature would be read with interest by prospective buyers. [A list of the most prominent sugar mills and estates in Natal may be secured from the Bureau of Manufactures.]

ITALY.

VALUE OF THE BEET-SUGAR INDUSTRY TO THE KINGDOM.

The following information concerning the beet-sugar industry of Italy is furnished by Consul James E. Dunning, of Milan:

All the sugar produced in Italy is refined from the sugar beet. No cane sugar is produced, and therefore a small quantity is imported to meet a special demand, the imports in 1906 amounting to only 12,412 tons, the largest import since 1902, when it amounted to 20,011 tons. Austria supplied more than one-half the total imports in 1906, France, Belgium, and the United Kingdom following in their respective order.

The 100,000 acres under sugar cultivation in Italy were formerly almost waste ground, with the exception of a small amount of fruit grown thereon. To-day this ground yields from $40 to $60 worth of beets per acre. Formerly the fruit grown on the ground brought from $25 to $40 per acre. This increase means a great deal to Italian agriculture in general. It raised the wages paid for farm labor about 2⅔ cents per acre and gives employment to large numbers of factory hands, at from 60 cents to $1.10 per day. There are at present about 26,000 persons employed in the sugar industry in Italy.

BY-PRODUCTS—COST OF GROWING.

The by-products are also used to good advantage, mostly for feeding animals. The price of these by-products is about 45 cents per ton. To produce the Italian sugar output it is necessary to use 1,100,000 tons of beets, and these yield enough of by-products to feed 30,000 cattle. Formerly the by-products from the previous cultivations on the ground where the beet is now grown fed only 5,000 cattle. It is also stated that the waste of the refinery process is commencing to be used as a fertilizer. In many other ways the industry has been useful.

The molasses waste of the beet in Italy is not manufactured, on account of the high cost of that process, but is sold in the open market for the distillation of alcohol.

It takes 9.54 tons of sugar beets to produce 1 ton of sugar 100 per cent pure. The Italian refinery must pay the cultivator an average price of $4.55 per ton of beets, including transport expenses from the field to the refinery. Therefore $43.54 must be spent for beets to make 1 ton of sugar 100 per cent pure. The cost of manufacture, excluding interest on capital, amounts to about $19.21 per ton of sugar. After refining expenses are paid, excluding interest on capital, a ton of sugar 100 per cent pure costs in Italy about $62.62, or nearly 3 cents a pound, not including the Government tax on production, which is 6 cents per pound.

LACK OF SUITABLE SEED—SUGAR PRICE REGULATION.

The various sugar beets cultivated at present in Italy are grown from selected imported seeds, although results obtained are not entirely satisfactory. Italy stands in great need of native seed. The damage resulting from the importation of seed amounts to from 3 to 4 grades less in richness of sugar. Italy imports annually about $3,647,700 worth of seed of all kinds. It often happens that the *imported* seed is of inferior quality. The Italian demand for seed

can not at all times be supplied by foreign seed exporters, and in such cases the seed is collected immature and sent in that condition to Italy.

The "Unione Zuccheri," with main offices in Milan, is an organization of Italian refineries to control production. The union establishes the quantity of sugar that each refinery may produce in any given year. Every Italian refinery, except one, is a member of the union. There are 34 refineries in Italy to-day, and the construction of the thirty-fifth was started about six months ago. The union determines the selling price of sugar in Italy, which has always to be lower than that for which imported sugar could be sold. The union forms what is believed in Italy to be the best way to carry on the industry with success. It does not speculate nor can it create special and abnormal prices on the Italian market. By its aid it is next to impossible to turn out an overproduction, such as, happening often, would mean the downfall of the industry. There is about $24,000,000 invested in this Italian industry at present.

RUSSIA.

CROP YIELD FOR THE PRESENT SEASON AND MANUFACTURING RESULTS.

Consul John H. Grout makes the following report, from Odessa, on the current Russian sugar crop, with comparisons of previous yields:

Owing to the fact that such a very large percentage of the total sugar industry of Russia is confined within the Odessa consular district it is hardly practicable or satisfactory for me to report upon this subject unless I embrace the statistics for the whole country. Accordingly, the following deals with the final results obtained for the sugar boiling period 1907–8 for all of Russia:

From the compilations prepared by the departments of indirect taxation and of the liquor monopoly it appears that the number of factories in operation in the Empire during the last season was 278, as against 279 for the preceding period. Beet root to the extent of 534,550,460 poods, or 9,621,908 short tons, was delivered to the boiling factories, as against 630,562,520 poods, or 11,350,125 short tons, for the previous season. The quality of this beet root proved to be far superior to that of the preceding period, the roots containing the following percentages of sugar: In October, 19.53; in November, 18.48; in December, 16.96, and in January, 1908, 12.45.

As a result of this favorable condition of the raw material the difference between the sugar realized this season, as compared with the last season's return, is not so very considerable, as was at first feared while the crop was still in the fields. The figures for this period, 1907–8, are as follows: Refined loaf sugar, fully white, 6,113,609 poods, or 110,045 short tons; white sugar in crystals, 69,912,891 poods, or 1,258,432 short tons; yellow sugar, 15,907 poods, or 287 short tons; refined treacle, 3,759 poods, or 68 short tons. The corresponding figures for the previous period, 1906–7, were: Refined sugar, loaf, 6,618,197 poods, or 119,127 short tons; white crystal sugar, 71,033,696 poods, or 1,278,606 short tons; refined treacle, 19,403 poods, or 350 short tons. No yellow sugar is mentioned for that period.

FORMOSA.

OPPORTUNITIES FOR BUILDERS AND MACHINE MANUFACTURERS.

Consul Julean H. Arnold, of Tamsui, transmits an extended report on the sugar industry of Formosa, from which the following principal points are taken:

The primary object in the development of the industry is that Formosa may be able to supply the sugar consumption of Japan, to do which it must increase its production sevenfold its present output. With the efforts being put forth, together with the erection of modern sugar mills, which is being effected as speedily as possible, the island is on the way to accomplish this.

In 1900 the first modern crushing mill was erected by an American company, at the instance of the Formosan government, which proved so successful that it was then decided to encourage the manufacture of sugar in the island by modern machinery on a large scale, and although there are still 500 of the small native stone mills in operation, they are being absorbed by the large companies.

An American company recently completed the erection of a 500-ton mill and is now erecting a 1,000-ton mill at Ako and a 1,200-ton mill at Koshiken, the latter being the largest mill erected, thus far, in the island. Five Americans are employed in superintending these erections. Another mill has purchased 120 miles of American rails and a number of American locomotives for its cane trams. In connection with a large mill being erected by a German company, both American and German locomotives will be used on its trams. Still another mill, the machinery for which has been supplied by a Scotch company, has American building equipments and locomotives.

ADVICE TO AMERICAN EQUIPMENT MAKERS.

Probably the best advice which this office can give to American manufacturers of sugar machinery, equipments, car trams, and steam plows is that they send their representatives to the island to examine into conditions for themselves. In the event that any American manufacturers or dealers should contemplate sending representatives to Formosa, this consulate will be glad to instruct any such as to hotel accommodations, traveling facilities, and to assist in securing for them such interpreters as they may need, as well as furnish any other general information.

As the Formosan sugar mills are, for the most part, located in the country districts, it is necessary that mail matter intended for them be addressed in Japanese as well as in English, in order to insure its reaching its proper destination. [Consul Arnold has transmitted the addresses of the sugar mills on slips in both English and Japanese, which will be supplied to interested persons by the Bureau of Manufactures. A map of Formosa, showing the location of the sugar mills, is also on file in the Bureau of Manufactures.]

FOODSTUFFS.

MEAT PRODUCTS AND PRICES.

NEW ZEALAND.

NO DEMAND ABROAD FOR KOSHER MEAT—EXPORTS OF OTHER MEATS.

In reply to an American inquiry concerning the export trade in kosher meat Consular Agent Frank Graham sends the following information concerning his district of New Zealand:

Of the two companies in Canterbury which tin meats, one has never put in tins or exported kosher meat, and the other, after experimental shipments to London and South Africa a few years ago, abandoned both the exportation and the tinning of this meat. There are 37 meat-freezing works in New Zealand, but probably only one-half of them do any canning. The sale of tinned mutton and beef in New Zealand is small. The few Jewish people there are comparatively wealthy, and consequently there is no demand for kosher tinned meat.

Meat is chiefly exported from this country in a frozen state. The value of the exports of carcasses and joints of lamb, mutton, beef, and veal, in 1906, was £2,820,737 ($13,727,116). The accompanying table shows the statistics for the years 1904, 1905, and 1906 of exports of potted and preserved meats from New Zealand:

Countries.	1904.	1905.	1906.
	Hundredweight.	*Hundredweight.*	*Hundredweight.*
United Kingdom	10,981	15,849	24,391
Other Australian States	2,596	3,037	3,339
South Sea Islands	5,697	6,766	7,955
Fiji	2,548	2,235	4,018
British South Africa	856	517	374
All other	110	135	116
Total	22,788	28,539	40,193

In 1904 14,737 pounds of meat extract were exported to the United Kingdom; in 1905, 28,120 pounds, and in 1906, 28,921 pounds.

AUSTRALIA.

TASMANIAN RABBIT INDUSTRY GROWS IN IMPORTANCE.

Consul Henry D. Baker writes from Hobart, under date of April 28, that during the last few years the rabbit industry in Tasmania has assumed considerable proportions. His particulars follow:

Rabbits for export are trapped only in the winter months, when their fur is at its best, and the industry affords remunerative wages for a number of men and boys at a time when agricultural operations are dull. The trappers disembowel the rabbits on the spot

and cart them to the nearest railway station for dispatch to the freezing works at Hobart or Launceston. The rabbits are graded as to size and packed in crates holding from 24 to 30 rabbits, according to size, which are then stored in a freezing chamber. Periodically a steamer calls and takes a consignment of frozen rabbits to England. The season is just now approaching, and appearances seem to point to a busy time for the trappers. [The total Australian exportation in 1906 of frozen rabbits and hares was valued at $2,391,563, and of rabbit skins $2,323,510.—B. of M.]

GERMANY.

PORK PRICES AGAIN ADVANCING—QUOTATIONS FROM VARIOUS CITIES.

Consul William Bardel, writing from Bamberg, says that the price of pork in Germany, which during the year 1907 had become somewhat lower than it was during the two preceding years, in which the highest price on record had to be paid, is again going up and bids fair soon to reach, if not exceed, the previous highest point. He adds:

As compared with the market price paid for pork in the year 1907, the figures prevailing in the markets of 17 large German cities at the present time (computed into American currency per hundredweight) show up as follows:

Cities.	1907.	1908.	Cities.	1907.	1908.
Berlin	$9.07–$10.58	$9.93–$11.44	Mannheim	$11.22–$11.66	$11.09–$12.52
Breslau	8.64– 10.80	9.93– 11.66	Stuttgart	11.22– 11.88	12.31– 12.96
Magdeburg	8.64– 11.03	9.71– 12.31	Munich	10.80– 12.31	10.80– 12.96
Dresden	9.91– 11.44	11.22– 12.74	Nuremberg	11.00– 11.88	12.74– 13.16
Leipzig	9.49– 11.44	10.46– 12.09	Cologne	10.37– 11.66	11.44– 12.31
Hanover	9.28– 11.44	10.46– 13.60	Elberfeld	9.07– 11.00	10.37– 12.52
Hamburg	8.64– 10.58	10.58– 11.66	Essen	9.49– 11.00	10.37– 12.52
Dortmund	10.37– 11.44	10.37– 12.31	Düsseldorf	9.49– 11.66	11.66– 13.60
Frankfort	9.49– 11.88	10.80– 12.74			

ANIMALS SLAUGHTERED FOR FOOD LAST YEAR.

Consul-General Richard Guenther, of Frankfort, furnishes the following information covering the number of animals slaughtered for food and officially inspected in Germany in 1907: Oxen, 575,671; bulls, 427,732; cows, 1,611,366; heifers, over 3 months, 938,936; calves, up to 3 months, 4,384,842; hogs, 16,382,983; sheep, 2,186,113; goats, 489,743; horses and other solipeds, 135,239; dogs, 6,472.

BELGIUM.

INCREASING CONSUMPTION OF HORSE MEAT—OTHER MEAT PRICES.

Consul-General Ethelbert Watts, in writing from Brussels that horse meat is very largely used in Belgium as human food, gives the following details:

Statistics show that the importation of horses for that purpose is increasing annually, the importations in 1904 having been 20,218 head; in 1905, 22,284 head; and in 1906, 26,294 head, the greater part of which was from England.

There are two recognized abattoirs for Brussels and suburbs, *namely, the* Anderlecht-Cureghem slaughterhouse (a private corporation) *and the city* of Brussels slaughterhouse (municipal). The

former butchers 2,798 to 2,950 and the latter about 1,200 to 1,500 horses annually. This large consumption of horse meat is due to the high charges for other meats in this city.

There are about 36 butchers' establishments in Brussels and suburbs retailing horse meat only. The retail price varies from 35 centimes (6.7 cents) to 80 centimes (15.4 cents) per ½ kilo (1.1 pounds).

The following are the present retail prices of beef per ½ kilo: Best tenderloin (filet pur), 3 francs (57.9 cents); other good beef for roasting, 1.45 to 1.6 francs (27.9 to 30.8 cents); soup and inferior beef, 60 to 90 centimes (11.5 to 17.4 cents); mutton, 80 centimes to 1.25 francs (15.4 to 24.1 cents); veal, 1.25 to 1.6 francs (24.1 to 30.9 cents); pork about same price as mutton.

FRUIT TRADE.

ITALY.

REDUCED AMERICAN PURCHASES—DECLINE IN PRICES.

In forwarding statistics of exportation of citrate of lime and concentrated lemon juice, boxes of lemons, and essence from Sicily, Vice-Consul Joseph H. Peirce, of Messina, writes:

There is a marked decrease in all the items due to the crisis of the importation markets. Shipments of essences would be much less this season if contracts had not been made when the crisis and the consequent depression in prices were not apprehended. Some of the buyers had already signed contracts for about 50 per cent more than the present actual market prices, to complete which will cause them to lose heavily.

The exportation of citrate of lime and concentrated lemon juice from Sicily during the four months December, 1907, to March, 1908, amounted to 5,341 pipes, against 7,907 pipes during the same period of the previous year. The shipments to the United States, the largest customer, dropped from 2,802 to 1,972 pipes and to France from 2,753 to 1, 212 pipes, while Germany took 219 more, or 1,113 pipes.

The Sicilian exportation of essences, that of lemon constituting the larger part, for the five months during November, 1907, to March, 1908, dropped to 175,000 pounds (including coppers), having been 282,000 pounds the same period of the previous year. The exports of 251,000 pounds to other countries were the same as in the previous five months.

Exact and separate statistics of shipments of lemons in boxes to the United States can not be given, for the reason that some times, on account of better prices in the markets of the States, boxes of lemons which were intended for transshipment in the States for Canada are kept in New York or Boston and sold there. Vice versa, some intended for the American markets are reshipped to Canada. The exportation of lemons in boxes from Sicily to the United States and Canada for the six months October to March for the past four years has been as follows: 1904–5, 809,900; 1905–6, 692,600; 1906–7, 725,700; 1907–8, 571,300.

The majority of the Sicilian producers, manufacturers, and merchants of lemons and similar fruit and products of same have held several meetings with the object of establishing a society for the pro-

tection of these products. It is the opinion that they will succeed in their intention, in which case an increase in prices will certainly ensue for the coming season.

BRITISH SOUTH AFRICA.

INITIAL EXPERIMENTAL SHIPMENTS OF FRESH FRUITS TO EUROPE.

Consul Edwin S. Cunningham, of Durban, furnishes the following information relative to the first shipments of Natal fresh fruits to Europe:

During the year the Natal Government extended substantial aid to a well-organized effort to find a market in Europe for Natal citrus and other fruits. As the season closes the shipments can in no sense be termed a success, though it must be remembered that this was but the experimental and initial stage. No doubt the experience gained during this season will enable the growers to profit by any mistakes they may have fallen into, and succeeding years' shipments will be more satisfactory. The fruit of this colony is excellent, and when some obstacles are overcome, it seems probable that they may be found in European markets at a time when other fruits are out of season.

During June, July, August, and September, 1907, 295 tons of Natal fruit were received in London, from which consignments were offered in the principal markets in England and Scotland, as well as Antwerp, Amsterdam, and Hamburg on the Continent. Of these shipments 67 tons were shipped between deck at a 25 shilling ($6.08) rate, the remainder in cool chamber at a 77 shilling ($18.74) rate. As a result of this year's experience the Natal Orchard Association, under which the exportations have been made, announce that citrus fruit can be successfully carried to European markets and fair prices obtained for a good quality; that it must be shipped in cool chambers, but that 77 shillings is too high a rate to permit of shipments being made at a profit. The total oversea exports of Natal fresh fruits of all sorts during 1907 amounted to only $14,720, and the exports to other colonies in South Africa to $551,440.

AMERICAN FOODS IN AUSTRIA.

WHY SUCH PRODUCTS HAVE NOT A LARGER MARKET IN BOHEMIA.

In reply to many inquiries Consul Joseph I. Brittain, of Prague, supplies the following information concerning the obstacles in the way of a larger consumption of American foods in Bohemia:

Within the past few months many inquiries have been made at this consulate by American dealers who wish to extend their market for canned and evaporated fruits, canned salmon, and biscuits of various sorts, especially California fruits.

The impression that appears to prevail among many of the producers is that, perhaps, our fruits are not carefully packed for foreign markets, and consequently do not arrive at their destination in a satisfactory condition. While the proper preparation of fruits for the foreign market is something which should receive the careful attention of the exporter, the overshadowing reason why our fruits

do not find in Bohemia the market which they merit must be attributed to another cause, namely, the high Austrian tariff rates.

A considerable percentage of the merchandise exported from Prague to the United States—which amounted to $3,214,850 in 1907—is on the free list. On the other hand, the following duties must be paid on some American food products entering Austria: Biscuits, $20.30 per 220 pounds, and when they contain sugar, $17.25. The duty on prunes, packed in boxes or sacks weighing over 66 pounds, is $2.84 per 220 pounds; in smaller packages, $5.08, or 2¾ cents per pound. Ordinary California prunes sell for 20 cents per pound. Evaporated apricots, pears, peaches, apples, and cherries pay a duty of $4.06 for 220 pounds. The duty on fruits sealed in tin or glass cans is $17.25 for 220 pounds, or about 8½ cents a pound. Salmon in cans hermetically sealed pays a duty of $17.25 per 220 pounds, or about 8½ cents per pound. The Austrian duty on grain is also high; wheat pays a duty of $1.28 per 220 pounds.

Aside from the high duty, the Prague retailer takes a large percentage of profit, as compared with the American retailer, claiming that the expenses of the business demand the margin. Regardless of the high duties, the American exporter could increase his sales if he were to sell direct instead of through foreign houses, thus increasing commissions and freight.

COFFEE CONSUMPTION IN TURKEY.

GRADES PREFERRED—OPENING FOR AMERICAN GRINDING MILLS.

Consul Ernest L. Harris, of Smyrna, furnishes the following information concerning the consumption of coffee in Asia Minor and the relatively great demand for coffee mills:

Coffee is the national drink of Turkey. That used in the city of Smyrna comes principally from Brazil. The best quality of imported coffee is the Arabian, but it is so expensive that only the richer classes can afford to buy it. Brazilian coffee is the staple product in this part of the world, and reaches this port chiefly through commission houses in London, Hamburg, Trieste, and Marseille. Payments are cash against the delivery of the shipping documents. The annual imports amount to about 90,000,000 pounds. Brazilian coffee is sold by retailers at 15 to 20 cents per pound, while the Arabian product often costs more than double this sum.

It is natural, in a country where so much coffee is consumed, that coffee mills should be greatly in demand. England and Germany send out cheap coffee mills which sell at from $1 to $2.50 each, according to size and quality. Of late a sort of flat wooden mill has been introduced here which promises to have large sales owing to its cheapness. American coffee mills can easily be introduced in Smyrna if the prices are reasonable. If American manufacturers of such articles will send their catalogues to this consulate, in triplicate, I shall be glad to bring them to the attention of interested parties.

One thing which militates against the ready sale of coffee mills in the interior of Asia Minor is the old-fashioned custom of grinding coffee in a large stone or marble mortar by means of a heavy iron pestle. Sometimes even simpler methods are used, such as crushing coffee between two flattened stones.

JAPAN'S FLOUR TRADE.

EXTENSION OF THE INDUSTRY—COMPETITION FOR NEW MARKETS.

Consul Hunter Sharp, of Kobe, sends a Japanese newspaper article on the flour industry, which says, in part:

Among the various new undertakings started subsequent to the late war was that of flour milling. Some of the flour mills promoted have ceased to exist, having been swept away by the financial crash that followed. Many have, however, survived the trial, and these are now in working order. Prior to the war the production of flour in Japan was very limited, and the annual importation of 4,000,000 to 5,000,000 bags was found necessary.

It is computed that the annual production of eight companies does not amount to less than 6,000,000 bags. Deducting from the latter 4,000,000 bags, which is the average annual quantity imported, the surplus will be in the neighborhood of 2,000,000 bags. Not only is it estimated that this will effectually check the importation of flour, but it is thought probable that the surplus can be used in Japan and China by extending the market, always supposing, of course, that flour can be cheaply produced. It is, however, doubtful whether the Japanese flour-milling companies will be enabled to reap satisfactory profits in competition with American flour. The fact is that Japan is not yet in a position to produce wheat in sufficient quantity to satisfy the demand. The total yield of wheat in the country is estimated at 3,500,000 koku (koku, 5.118 bushels), of which half the quantity is absorbed in the manufacture of soy and miso. Consequently, of the 2,500,000 koku of wheat which is required for flour-milling purposes, about half the quantity has to be imported. Of course Japan can afford to increase the yield of wheat if a good price is assured, but this can scarcely be practicable for some years to come.

CHEESE OUTPUT OF CANADA.

CONSIDERABLE DECREASE IN ONTARIO—BRIGHTER PROSPECTS.

In forwarding Canadian newspaper statements relating to the reduced cheese output in the Kingston and Peterboro district of Ontario, Consul H. D. Van Sant makes the following comments:

With the enlargement of the Kingston consular district cheese production will be among its important industries. The exportation of cheese has decreased during the past year, and the outlook for an increased output for the next year or two is not promising. This condition should serve to give the American cheese exporter to Great Britain and other European countries an opportunity to build up the American market abroad to something like its former proportion.

The price of cheese in Kingston under quotation of May 20, 1908, is from $10\frac{1}{2}$ to $11\frac{1}{16}$ cents, white cheese selling at the latter figure. Last year the board at this time was cleared at $12\frac{7}{16}$ cents for white cheese and in some instances the record price of 13 cents was paid.

Last year's hay crop was the poorest for some seasons, and because of its scarcity and consequent high price many cows and cattle were killed off in the fall and winter. This season, however, the outlook is for an abundant crop of both hay and feed, with the probable effect that after a year or two the cheese output will be restored to normal conditions.

FOREST PRODUCTS.

HOUSE-BUILDING SUPPLIES.

SWEDEN.

REED LATHS USED INSTEAD OF AND CONSIDERED EQUAL TO WOOD LATHS.

The following information concerning the preparation and use of reed laths in Sweden, where wood laths, on account of their cost, are now little used, is furnished by Consul W. Henry Robertson, of Gothenburg:

Although Sweden is a country of unusually extensive forests, in proportion to its size, and is, therefore, better able than many other countries to stand a strain upon its wood products, it is found here that certain reeds form a much cheaper material than wood laths in the plastering of ceilings and wooden walls of buildings.

These reeds are of the common kind, known to botanists as Phragmites Communis, and as they grow wild in large quantities almost everywhere in central and southern Sweden, on the borders of lakes, ponds, rivers, smaller water courses, and in marshy places, it is thought that builders and farmers in the United States might do well to look into the entire proposition with a view of seeing whether these or similar reeds, that may undoubtedly grow wild also in the United States, could not be utilized for the same purpose and their growth artificially cultivated and extended. This would give rise not only to a cheaper building material, but to an industry of growing and harvesting the reeds, and manufacturing them into a sort of matting, where this is found preferable to using them in their raw state in building operations.

HOW REED LATHS ARE USED IN SWEDEN.

As to the methods used here in applying both the raw and the manufactured reeds to the walls and ceilings, as well as the machinery used in making the latter, it is thought that it would be easy materially to improve upon both, and it is the certainty of the ability on the part of Americans to do this with facility that makes the whole proposition capable of development and of a thoroughly useful application to our building operations. It is also not at all impossible that experimentation and development along the one line might show the reeds suitable for other purposes.

The reeds are used in Sweden in both the raw state and in the form of a woven sort of matting, according to the customs and preferences of the builders.

The method, however, that would be most likely to appeal to American builders is the one where the reeds are woven into a mat-

ting which is much more readily nailed to the walls and ceilings than where each reed is nailed on and wired by hand.

The following is a careful translation of a price list of the largest Swedish firm manufacturing the reed mats:

Mats to be used single, in widths of 2, 1.90, 1.80, 1.70, 1.65, and 1.5 meters (1 meter = 39.37 inches); mats, to be used double, in widths of 1.7, 1.65, and 1.5 meters, delivered in rolls of 20 square meters (1 square meter = 10.76 square feet), at a gross price of 65 cents per roll.

In single reeding the mats are nailed to walls or ceilings in the same way, viz: Fasten all the wires of one end of the mat, unroll the mat over the wall or ceiling; stretch the middle wire tight, be careful and see that the mat hangs or lies straight, and then stretch the other wires in the same degree as the first one. Then fasten every wire by nails placed about 6 or 8 inches from each other.

For ceilings the connecting edges of the mats should be dovetailed so as to make a joint about 5 inches wide, and loose wires are stretched along the joint and fastened in the usual way with 1-inch plastering nails.

For double reeding of ceilings or outside walls mats with larger spaces between the reeds are used; the inside mat is put on in the ordinary way, although a somewhat larger space between the nails may be allowed. Then the second mat is put on in such a way that its reeds come at right angle to the reeds of the first mat. The fastening is done with 1¼-inch plastering nails.

As will be seen from the above the mats are of two different kinds, one more closely woven of heavier reeds, to be used single, and the other more openly woven of thinner reeds, to be used double. The warp in each case is annealed iron wire. The mats are delivered in rolls.

THE WILD REED.

The plant from which the reed grows is known by several names in Sweden, but is most commonly called "vass," or "vassrör." It seems to thrive best in shallow water on the edges of lakes, but it is also sometimes found as a weed among growing grain on low ground. It is the largest of the wild grasses in Sweden, and is considered good fodder for cattle, for which purpose it is often cut green. The tops are also sometimes cut off before they go to seed, and are then used by farmers as stuffing for beds and mattresses.

The full-grown reeds are about 7 or 8 feet high above water, and, when they are to be used as a plaster-fastening material, they are cut in winter, after the leaves have dropped off and the lakes have been frozen over. They are never harvested in boats. The frozen surface of the lakes makes the reeds much more accessible than if one had to reach them through water or swampy land; but they should be cut as early in winter as possible, before the snow has broken them. The reeds are not cultivated in Sweden, but are regarded as so common that it is impossible to procure the young plants or the seed except by giving a special order for some one to go into the country for them at the proper seasons of the year, the spring for the plants and the fall for the seed.

PRICES OF REEDS AND MATS.

There are no special purchasing agents or concerns in Sweden for the harvesting of the reeds. On the largest number of farms where such reeds grow the farmers themselves cut the reeds and sell them to the so-called revetting factories. The prices vary considerably in different years. On the average a bundle with a cross-section of 10 inches at the lower tie or brace, about 1 foot from the root end, *costs, delivered on* railroad car, 8 to 9 cents. The reeds are also often

bought in stooks of 20 bundles, each bundle being about 2 feet in circumference, and costs about $1.07 per stook, or shock.

The mats are of different widths, from 1 to 2 meters, according to the length of the reeds. They contain about 20 square meters and have a selling price at the factory of about 1.90 kroner (50.9 cents) per mat, or about 10 öre per square meter (2.7 cents per 10.76 square feet). It is impossible to state with accuracy the number of mats made and sold in Sweden in a year.

REED VERSUS WOOD MATS.

A manufacturer writes as follows:

Reed laths are probably just as durable as wood laths. The writer has seen houses torn down which were at least seventy-five years old and found the reeds nailed to the walls just as sound as when they were put there. All depends, however, upon the manner in which the reeds are harvested and kept, because they are easily damaged if the bundles are kept wet or covered with ice. Wood revetting mats are scarcely manufactured any more in Sweden, because they are too expensive. Besides that, the reed mats are considered better and more practical, because when such are used the surface of the plastering does not crack, which was often the case when unseasoned wood laths were used. So-called loose reeding is used a great deal; that is, the loose reeds are nailed to the walls and ceilings by hand. If skilled workmen are available, such reeding can be just as good and practical as the mats. Whether one or the other of the two systems is used depends a great deal upon the custom of the respective building contractors. The old ones, among whom there are a number of conservative persons who hold on to old methods, prefer the so-called loose reeding. No practical preference can be given to either of the methods, except that when mats are used the reeding can be made more quickly and specially experienced workmen are not needed. The use of reed mats is also increasing, as compared with the use of loose reeds.

From the foregoing it will be noted that wood revetting mats are scarcely manufactured any more in Sweden, the reed mats being considered better and more practical for several reasons. The question not unnaturally occurs, however, as to whether it might not be a good idea for American lath manufacturers to try the use of wood revetting mats made after the Swedish model in case it should be found impracticable to grow or import the reeds. It would seem to furnish a cheaper and quicker method of attaching the laths to the walls and ceilings with much less labor. It appears that the insulating properties of wood and of the reed laths are considered about equal.

The manufacturer who supplied the prices and the mode of putting up the reed mats supplies similar information concerning the price and putting up of wood laths, as follows:

Dimension, 1 by 20 meters, at a list price of $1.34 per roll. The fastening of wood lath mats is done in the same manner as described for reed mats. Lath nails 1½ inches in length are most suitable, and the nails should be driven in through the small opening found between the twisted wires close to the lath. In order to facilitate the making of proper seams or joints between two mats, the end of every other lath protrudes beyond the next one.

SUPPLY OF REEDS.

The supply of reeds in Sweden is very large and much in excess of the home demand, so that great quantities, which are never harvested, could be available for export. The fact that the mats have not been exported to the United States is very likely due to the transportation costs for such cheap and bulky goods. All depends ultimately upon what price could be obtained for the mats in the United States and whether the reeds themselves could be cultivated and harvested there

at less expense than it would cost to import them. If the reed mats could bear the freight charges to the United States, there should not be any insuperable obstacle to the import of such from here. Still, it might be found more practicable to import the loose reeds and make them into mats in the United States. Or, better still, in case the reeds already grow, or can be made to grow, in the United States, machines for the manufacturing of the mats could readily be purchased here and improved upon. The matter seems well worth careful investigation, and this consulate stands ready at any time to give any further specific information that may be desired and that is procurable. The question is one that must be looked at both from the agricultural or producing standpoint and the commercial standpoint.

Parties in the United States interested in the general subject or any of its specific features, or in the importation of the loose reeds, the reed matting, or the machines for making the latter, could not do better than enter into correspondence with the concerns whose names and addresses are forwarded. [Names and addresses, together with illustrations of revetted reed and wood lath mats, prices of machinery, etc., are on file in the Bureau of Manufactures.]

GERMANY.

THE USE OF REEDS AS SUBSTITUTES FOR LATHS IN PLASTERING.

In replying to a communication from an American correspondent, Consul H. W. Harris, of Nuremberg, furnishes the following information concerning the use of reeds for lathing for plastering:

The use of small reeds as a substitute for plastering laths is common in Germany and in other parts of Europe. The reeds used in this industry are chiefly imported from Hungary by Danube boats, and vary in length from 1 to 2½ yards or even more, and from ⅜ inch to 1½ inches in diameter. The supply in Hungary is said to be abundant, but to be decreasing through drainage of swamps.

By means of machinery these reeds are fastened together by wires so as to form a continuous mat as wide as the reeds are long, and which is cut with shears and fastened to walls or ceilings in place of laths. In some cases builders require the matting to be put on double, the aim in this case being to have the reeds in the upper mat fall at the interstices in the lower mat. The reeds are usually about ½ inch and the connecting wires about 8 inches apart. The wires are usually galvanized, and consist of a heavier wire about a millimeter (0.0394 inch) in diameter and a lighter wire half this diameter. The lighter wire, after passing over a reed, is twisted three or four times around the heavier wire, then passes over the next reed, then around the heavier wire, and so on, each reed thus being kept in place. In some of the machinery used the successive twists of the smaller wire around the larger are on a line with the centers of the reeds; while with other machines the line is tangent to the circumference of the reeds. In the latter case it is as if the reeds were simply laid one after another on a straight wire, the smaller wire forming the entire loop around the reeds.

Two classes of machines, power and hand, are in use in the Nuremberg district for the manufacture of the matting, and the amount of work that can be done with both differs very little, being in both cases 250 to 300 square meters (300 to 359 square yards) per day of ten hours.

A gentleman of much experience in this industry states that the machinery in his own factory, and in all other factories so far as he has knowledge, is defective, in that the reeds have to be fed in endwise instead of sidewise by an operator standing in front of the machine. If a reed is partly broken or is bent or otherwise imperfect, it is difficult to push it into proper position. He referred to a Hungarian inventor who claims to have overcome this difficulty, and who is about patenting his invention in the United States.

The reeds as imported retain over practically their entire length the lower or sheath part of the leaves. The removal of these sheaths is a tedious process done by hand. At the present rate of wages in the United States it is doubtful whether it would pay to do this work there.

Reed matting on board cars at the factories in this locality sells at about 2⅓ American cents per square meter (10.76 square feet).

HONDURAS.

IMPORTATION OF PORTABLE HOUSES GROWING IN CENTRAL AMERICA.

Consul Drew Linard writes from Ceiba that the time and opportunity is ripe for manufacturers of the portable cottages that are so extensively used in the United States for camps, resorts, and on construction works to advertise and push their products in Honduras. The consul gives the following practical trade pointers:

Prior to the recent activity in building construction here 90 per cent of the homes were 1 or 2 room adobe or pine shacks with thatched roofs. The demand for a better class of dwelling is becoming more general. The large profits realized by the small banana grower enables him to improve the comforts and appearance of his home.

A very plain 1-story, 4-room house, with kitchen attached, has been adopted as the popular style of architecture. These houses, which cost about $1,500 United States currency to construct, are roofed with the heat-absorbing corrugated galvanized-iron sheets, have a porch along the entire frontage, and windows without glass, a large wooden shutter answering the purpose. The interior is unsheathed, all joists showing, and the room divisions are of lapped boards. Owing to faulty construction and poor material few of the recently constructed houses here are impervious to the frequent torrential rains in this region.

The cost and addition of acetylene gas and water tank is optional with the tenant and depends upon his purse and disposition as to these luxuries.

The culled white pine known to the trade as "seconds" is the only kind of lumber used in the construction of these houses, and costs 90 soles (about $45 gold) per 1,000 feet B. M., the climate limiting its period of usefulness to three years, more or less. The carpenters receive 6 soles a day of nine hours. They are, as mechanics, slow in execution and primitive in ideas.

A 4-room portable house, with porch and kitchen attached, could be delivered and erected here at a lower cost than for a building erected by the prevailing method of construction, and would be much more attractive architecturally, more durable, and give greater comfort and satisfaction to the owners.

INDIAN LAC.

PRODUCTION OF THE RESIN AND VALUE OF THE INDUSTRY.

From a monograph prepared by the Imperial forest zoologist and printed by the government of India concerning the lac industry, Consul-General William H. Michael, of Calcutta, furnishes the following information:

This publication is of special interest to students and business men in the United States because of the growing importance of the trade in lac between India and the United States, which amounted last year to $5,598,333. The total export of lac from India to all countries during the fiscal year 1906 amounted to about $11,111,000, and in 1907 to $11,535,502, an increase of $424,502. In the exports of lac the United States stands first, taking more than all other markets combined; the United Kingdom next, followed by Germany. The monograph says:

Lac is a resinous incrustation excreted by a scale insect known as Tachardia lacca. The mouth parts of this insect consist of a beak or sucking apparatus combined with a pointed lancet. With this latter the scale pierces the bark of the twig of the tree and then inserts the sucking tube and draws up the sap. The insect may be likened to an animated siphon, since the sap continually sucked up through the beak is, after modification and absorption of some of its products, given out as an excretion at the anal end of the body.

This excretion solidifies on contact with the air, and thus there is gradually formed around the body a "scale" or "cell," popularly known as lac. Were only a single insect present on a branch the scale would appear as a circular, dome-shaped, reddish excrescence on the surface of the bark. Owing, however, to the production by the female of a very large number of eggs (as many as 1,000) and the habit of the insects, which, indeed, is common to many of the family, of living and feeding gregariously, closely packed together on one twig, the scales of cells coalesce during their formation and result in the production of a continuous incrustation on the twigs, which on collection forms the article of commerce known as stick-lac.

SHELLAC AND DYESTUFF—OPERATION OF THE INDUSTRY.

From this stick-lac the product known as "shellac" is manufactured. There is a second substance obtainable from the scales and known to commerce as "lac-dye," for which formerly there was a considerable demand—a demand which, owing to the introduction of synthetic dyes, has practically disappeared. This product consists for the most part of the material from which the eggs are developed in the body of the female insect. There is still a small export of this lac-dye from India, but the total value for the whole of India is extremely small.

The cultivation and collection of the lac was, and practically still is, chiefly in the hands of the aboriginal races of the poorer parts of the country, and the methods of propagation and collection still in force are those which were in existence centuries ago. These methods satisfied the demand for the article in the country and, until quite recently, that of the export trade. This latter was developed slowly. It took nearly half a century for the properties of the resin to be fully appreciated in Europe. It was the dye which first made its appearance in Europe, and its export was long limited by the difficulty experienced in extracting the coloring matter and applying it to manufactures at home.

At the beginning of the nineteenth century the exports of lac dye from India were five to six times more valuable than those of the resin. As showing the progress of the industry and the growing de-

mand for shellac and decrease in utility of lac dye between 1868 and 1900, the value of the exports of the former increased from $613,830 to $3,088,533, while that of the latter decreased from $148,537 to nothing.

FURNITURE MARKETS.

CHINA.

CONSIDERATION OF CHARACTERISTICS OF THE CLIMATE AND PEOPLE.

The following report is from Consul Wilbur T. Gracey, of Tsingtau, in response to inquiries on the part of American furniture dealers as to opportunities in China:

Manufacturers who intend to ship furniture to China should take the climate into consideration. In the months of June, July, and August, excessive dampness is prevalent throughout the entire country, especially in the southern ports, Hongkong, Amoy, Canton, Foochow, and Swatow; in Shanghai the dampness is usually in June or July only, and Tsingtau and farther north the fogs and dampness are usually over by the end of June.

During these damp months furniture which is put together with glue falls apart, drawers stick, rolling tops refuse to work, and flat tops warp and split. Furniture for use in this climate must, therefore, be especially well seasoned before its manufacture. During the winter months in North China the climate becomes extremely dry and in and about Peking and Tientsin the country is visited by heavy dust storms. Furniture which has buckled and warped during the summer returns to its normal state or else goes to the other extreme and exhibits cracks often half an inch or more in width.

LOCALLY MADE GOODS AND WOODS USED.

Most of the furniture in use in Tsingtau, as elsewhere in China, is manufactured roughly in local shops. Teak wood is considered the most satisfactory, although American oak and pine are being considerably used, and the local pear, pine, and chestnut are in common use. Camphor provides a hard wood which is especially useful for chests of drawers, trunks, etc., as clothing containers. It does not split or warp as badly as the previously mentioned woods.

In the old days of sailing ships, considerable quantities of furniture were imported into the southern ports of China, but since the advent of steamers this trade seems to have considerably decreased. English manufactured furniture can still be purchased in Shanghai and Hongkong, but most of that used by the European and American residents is of local production.

In making the roughly finished local furniture quartered oak or other quarter-sawed woods seem to be unknown. The furniture sold in Tsingtau is all locally produced, mostly by Chinese firms, though there are two German steam sawmills manufacturing a certain amount. Their prices are equally high, if not higher than that of American furniture laid down here, and while the trade is not large, there should be an opportunity to introduce American goods in competition. The sales are limited to the foreign residents, and as 99 per cent are Germans, furniture of German models is usually sold. It

would be well, therefore, for American manufacturers to modify their styles to meet the local demand.

CONSTRUCTION SUGGESTIONS—WESTERN IDEAS SPREADING.

All furniture should be put together with screws, no glue being used, and if possible should be so that it can be knocked down for shipment, freight being an important point in considering prices.

A large number of bent-wood chairs are found in the hotels and houses, doubtless originating in Austria or Germany, and are also being used by the Chinese in the adjoining province of Shantung. These chairs retail in Shanghai and other China ports at from $1 to $2 United States currency each, and at lower prices in quantities. They come knocked down into small compass and command a ready sale. Chairs of a more expensive kind, upholstered in leather or bright-colored tapestries, come from Germany to Tsingtau and from England to Shanghai and other ports.

Dining room furniture, such as sideboards, buffet, extension tables, china cabinets, etc., are chiefly made here, though a certain amount of the better class of goods comes from Europe. Sideboards are larger in size and usually more richly carved and finished than in America. They usually have plate glass mirrors inserted in the back, with plenty of carving about the mirror and drawers. Especially is this the case with goods manufactured for the use of the better class of Chinese, who are becoming gradually users of foreign-style furniture, many of the richer merchants having their dining rooms fitted up in a European manner. They are especially fond of gilded mirrors, or gaudily hand painted ones in heavily gilded frames. Almost all the residences of the Chinese officials now have their "foreign style" reception room, and pay excessively high prices for the local crude products of Shanghai. Most of the furniture manufactured in China is copied from English designs, though in Tsingtau German models predominate. Every carpenter is provided with British and American furniture catalogues, and they appear to be quite ingenious in making apparently exact replicas of the articles selected from the catalogues.

SELLING METHODS.

It might be a good plan to sell furniture in China knocked down and "in the white," that is unpainted or without upholstering, though foreign goods usually attain their sale because of the superior finish and polish which the Chinese seem unable to accomplish. American furniture laid down in China at anywhere near competing prices would certainly command a sale, as the locally produced articles lack uniformity, the fitting of the parts very poor, and as nothing but hand machinery is used the result is always rough. Furthermore, the wood being badly seasoned the productions are not of lasting quality.

Furniture could not be sold here by catalogue. Probably the best way to introduce would be to communicate with local dealers and, after securing their advice, forward a selection of articles for sale on commission. The system of "cash with order" used by most American business men is not a satisfactory one in dealing with foreign merchants. The standing of local firms can be easily discovered through such institutions as the Hongkong and Shanghai Banking

Company or the Deutsch-Asiatische Bank, and when familiar with such particulars there is no reason why such business men should not be given such credit as would be extended to men in similar lines in the United States.

BRITISH SOUTH AFRICA.

FAVORABLE OPENING FOR AMERICAN BENT-WOOD CHAIRS.

Vice-Consul-General George Loomis Foster, writing from Cape Town, says that for the past ten years the sale of Canadian-made bent-wood chairs has been increasing in South Africa and they are to be seen all through the country. Details of the trade follow:

While the ordinary retail furniture dealers in Cape Town and other large centers do not sell many of the chairs, the wholesale houses are said to import them very largely, and sell them through the small country shopkeepers and city auction rooms. These chairs sell well because they are cheap, serviceable, and attractive. They are made principally of elm, and shipped knocked down. Their low price and neat appearance make them more desirable than the English and German bent-wood chairs, of which so many have been sold in all parts of South Africa.

A catalogue published by one of the Canadian manufacturers has been secured, from which illustrations of the most salable styles are taken and attached to this report, with prices per dozen marked in red ink f. o. b., New York, Boston, Portland, St. John, or Montreal. [These illustrations, as well as the addresses of the principal importing houses are filed for trade reference with the Bureau of Manufactures.]

WHOLESALE AND RETAIL PRICES.

The styles said to have the largest sale are those marked from $7.50 to $10 per dozen. The $10 per dozen chairs cost landed in Cape Town, inclusive of 15 per cent valorem duty, dock dues, and delivery to city warehouses, 59 shillings ($14.35) per dozen, or 4s. 11d. ($1.19) each. The wholesaler is, therefore, able to sell the chair at 70 shillings ($17.03) per dozen, with a fair margin of profit, and the retailer secures a satisfactory margin when selling at 7s. 6d. ($1.82) each. The expenses of importing the cheaper styles are, of course, greater in proportion, amounting in some cases to 45 per cent.

Our American manufacturers would find no difficulty, it is said, in securing a fair portion of this trade if they can quote prices on similar styles which will, after taking into account the 3 per cent customs preference which Canada enjoys, be equally advantageous to importers.

At the present time no similar lines are being offered in South Africa from the chair manufacturers in the United States. A Canadian company supplies the greater portion of the Canadian chairs, and have placed their agency for South Africa in such a manner that their agent, who is a wholesaler and a retailer of furniture, gets a royalty on all the chairs of their make sold in South Africa. Both the commission houses and the dealers would be pleased to see some competing manufacturer get a foothold.

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RUBBER PRODUCTION.

MEXICO.

USE OF GERMAN METHODS FOR GUAYULE—NEW SOURCES OF GUM.

Consul Clarence A. Miller, of Matamoros, supplies the following account of the processes employed in Mexico for extracting rubber from shrubs, the article being prepared at his request by a Monterey chemist, who wrote:

There are, as far as I know, two German chemical processes in use in this country for the production of rubber from the guayule plant. One of these is based on the application of alkali, the other one on the use of benzol and alcohol. However, the system mostly used by the largest factories seems to be the separation of the rubber from the shrub by boiling at a temperature of about 130° C. three hours, more or less, and adding to the water caustic soda or simply lime; some also add salt to the lime. These substances are used against the resinous contents of the plant which are extracted, together with the rubber. I have another chemical process which I consider the best. A part of my process is used by the Saltillo factory, which selected the benzol method over the boiling process mostly used after they had invested several hundred thousand dollars in a boiling plant. The latter are the most expensive in construction but the cheapest in operation; their disadvantage consists in the great loss of rubber (about 3 to 4 per cent), as well as in the quick spoiling of the rubber, which does not last as long as that chemically produced.

In addition to guayule, there are in this country other plants containing rubber, but not enough to pay the expense of the extraction of it. Experiments are being made with the candelilala, which is claimed to contain 3 per cent rubber, considerable resin, and also a high percentage of wax. Some trial carloads of this plant have been exported to Belgium. There are in New York excellent chemical laboratory firms which know all about guayule rubber and its extraction. If new plants said to contain rubber are examined by them, they can supply all the scientific and practical information needed.

ITALY.

SUCCESSFUL EXPERIMENTS IN SICILY—GOVERNMENT AID.

Consul James E. Dunning, of Milan, reports that as a result of long experiments made in Sicily, the ministry of agriculture has been advised that rubber trees can be successfully cultivated in that part of Italy, to which he adds:

The rubber secured from the experimental trees has been carefully tested by a Milan manufacturer and has proved to be of good quality. The official report declares that conditions of soil and temperature are equal in Sicily to those in the best rubber-raising countries.

It is estimated that ten years of preliminary cultivation is necessary here to bring trees to profitable productiveness, and as it is impossible for the country to meet such an interval the assistance of the Government has been asked and is being considered. As the proposition has reached the ministry it is said to contemplate the free Government distribution of young trees and money awards for successful cultivators.

TEXTILES.

COTTON GOODS TRADE.

GERMANY.

RESULTS OF PAST YEAR'S OPERATIONS AND PRESENT CONDITIONS.

Consul Thomas H. Norton, of Chemnitz, advises that the Union of South German Cotton Manufacturers has just issued its annual report, which offers an interesting view into the conditions of the cotton industry at the close of 1907. He reviews the industry as follows:

As compared with 1906, the mills connected with the union increased their number of spindles from 2,644,562 to 2,811,474, and their looms from 45,595 to 48,753. The general situation in this branch is thus summarized:

At the close of the year a strong retrograde commercial movement set in. It was followed by a fall in the price of raw material and an uninterrupted shrinkage in business, which certainly has not yet attained its lowest point. Despite the extensive contracts at advantageous rates concluded in the latter half of 1907, the results of the business depression in the United States have produced such a measure of reserve and distrust among buyers that general confidence in the stability of the market and of the consumptive demand is seriously impaired.

POSSIBLE LESSENING OF PRODUCTION.

The prospects of the cotton industry in the immediate future are in no way satisfactory. In fact, as the import of British and Indian yarns into the German market increased rapidly during the closing months of 1907, we must now expect to face in a still greater degree the competition of English spinners.

Under these circumstances it is not improbable that the demand for an increase in the tariff on the importations into Germany of the coarser counts of yarn will become more insistent, and that the difficulties accruing to German textile interests in regard to foreign markets, as a result of the various reciprocity treaties, will, for the first time, become clearly and actually evident.

In this connection it is to be noted that there has been a marked diminution in the output of the cotton-spinning mills in the region tributary to Chemnitz during the past two months, especially in those supplying the coarser varieties. While the large mills of Chemnitz itself have thus far neither restricted output nor lowered wages, unless a material change in the general situation soon becomes evident, a lessening in the production will inevitably ensue.

TURKEY.

PURCHASES OF COTTON YARN AND THREAD ON REEL AND SPOOL.

Consul-General Edward H. Ozmun, of Constantinople, makes the following report on the cotton yarn and thread trade of Turkey:

The Ottoman custom-house returns for the financial year ending March 13, 1906, which are the latest published, show that cotton yarn to the extent of $6,456,807 and thread on reel and spool for $1,576,024 were imported into Turkey from the following countries:

Country.	Yarns.	Thread.
Great Britain	$3,908,225	$830,218
Austria	943,967	205,128
Italy	1,309,440	278,410
All other countries	295,175	262,273
Total	6,456,807	1,576,024

Owing to the Turkish method of compiling statistics, Great Britain is credited with somewhat more than her share of this trade and for the same reason Germany is given credit for barely one-third of her actual exports to Turkey, while Austria is credited with half as much again as her actual exports. This is explained by the fact that considerable German merchandise is shipped via Trieste and credited as Austrian merchandise. It is apparent that almost the entire amount of yarn and thread credited to Austria is of German manufacture. Great Britain furnishes the largest amount of sewing cotton. I see no reason why the United States should not be able to secure a share in the Turkish yarn and thread trade.

MARKET IN ASIATIC TURKEY.

OPENING FOR AMERICAN PIECE GOODS IN HARPUT.

Consul Evan E. Young, of Harput, furnishes the following information concerning the promising field which his consular district offers for American cottons:

Gray cotton sheetings to the value of nearly $500,000 were imported into the vilayet of Diarbekir (this consular district), during the last calendar year. Nearly all of these were of English make and were purchased in Constantinople and other coast cities. From a careful comparison of the quality and cost of these and some of our American sheetings, I am convinced that American exporters of these goods can establish and maintain a very satisfactory market in this vilayet, provided the matter is given a little care and attention.

Several brands of American sheetings are meeting with splendid sale in the vilayet of Mamouret-Ul-Aziz, which adjoins that of Diarbekir, and there appears to be no reason why they should not find as good or even more active demand in the latter district.

With a desire of assisting American exporters in this matter as far as possible this office has taken up the question of the introduction of American cotton goods with several of the larger importing firms in that district, and one of the largest firms importing cotton goods in the city of Diarbekir is anxious to receive from American manufacturers and exporters samples of cotton sheetings (gray) with *prices quoted* c. i. f., port of Alexandretta. Terms of payment should

be made, if possible, cash against shipping documents at port of arrival, i. e., Alexandretta.

Samples with letters of advice as to cost, terms of payment, etc., should be sent direct to the firm. [Address on file in the Bureau of Manufactures.] Should further information be desired, this office will promptly secure and forward it.

JAPAN.

ADVANCE IN THE WEAVING INDUSTRY—TRADE WITH CHINA.

The following statistics covering the marked progress of the weaving industry of Japan and Japanese trade with China are furnished by Consul Hunter Sharp, of Kobe:

During the last five years the weaving industry in Japan has shown marked progress, as may be seen from the following statement: The number of weaving looms increased from 4,993 in 1903 to 9,259 in 1907, while the exports of cotton piece goods increased from $3,544,018 in 1903 to $9,185,493 in 1907. The production of cotton piece goods in 1907 was 80 per cent greater than in 1903.

The manufacture of cotton towels has also greatly increased; the official statistics give 103,573 dozen produced in 1907, as against only 32,784 dozen during the previous year.

Though there is still a large quantity of cotton piece goods imported into Japan, the Japanese are working to improve their production with a view to checking foreign importation, as was the case with cotton yarn prior to 1894.

TRADE WITH CHINA.

The following statistics concerning the trade of Japan with China in cotton yarns and piece goods appear in a local English Kobe newspaper:

The price of Japanese yarn is largely regulated according to the prospects of its China trade, and Japan's most formidable competitors in the China market are Indian and Chinese yarns. The restriction of production by the Japanese spinners will not only reduce the supply in China, but the shortage will have to be supplied by Indian and Shanghai yarn.

The quantity and value of Japanese yarns exported to China and the quantity and value of Indian yarns imported into China during the five years ended with 1907 were as follows:

Year.	Exports from Japan to China.		Imported into China from India.	
	Piculs. [a]	Taels. [b]	Piculs. [a]	Taels. [b]
1903	831,406	20,759,664	1,880,911	45,279,099
1904	638,729	15,973,390	1,628,783	42,393,390
1905	681,442	17,791,368	1,846,846	47,556,392
1906	654,371	16,649,172	1,840,235	46,109,724
1907	572,604	.....	1,893,894	.....

[a] Picul=133⅓ pounds. [b] Chinese customs tael on July 1=65.5 cents.

As will be seen from the foregoing, India is supplying to China three times as much yarn as comes from Japan, and there is a tendency toward a yearly increase in India's supply.

For cotton piece goods there exists as promising a market for Japan in China as for cotton yarn, and yet Japan's share therein is so small as to be only 5 or 6 per cent of the total imports. When everything is taken into consideration, the well-nigh limitless nature of the demand that exists for these goods in China may well be imagined.

CHINA.

EXCELLENT PROFITS OF A MILL LEASED FROM THE GOVERNMENT.

Vice-Consul-General Albert W. Pontius, writing from Hankow, describes the successful operations of a Chinese cotton mill:

The Chinese Government some years ago established four industries in Wuchang. The industries comprised a silk filature factory, a ramie factory, a spinning mill, and a cotton-cloth mill. The officials conducted these ventures for nearly ten years, but owing to the financial losses experienced in their operation the industries were leased to Chinese merchants at $120,000 per year. Some five years ago Mr. Teng, the compradore of the Hongkong and Shanghai Bank at Hankow, negotiated for a five-year lease, which recently expired, and his profits for the lease period amounted to nearly $480,000. A Mr. Wei, a wealthy tea merchant, has now taken over the lease.

All the machinery in the cotton-spinning mill was manufactured in 1895 by a British concern. Nos. 14 and 16 cotton yarns are produced. The No. 14 is made on frames of 140 spindles each, and the No. 16 on frames of 160 spindles each. The factory turns out 5,000 pounds of yarn per day, which amounts to about 40 bales. The No. 14 yarn has 14 skeins in one packet and 40 packets in one bale, and the No. 16 yarn 16 skeins in one packet and 40 packets to the bale. The power for the whole factory is supplied by a 1,500-horsepower engine having four boilers, which in operation consume about 30 tons of coal per day. About 900 persons are engaged in the mill, the majority being boys of 12 to 15 years of age, the latter being chiefly employed in the spinning work, being more adept at handling the yarn than the men.

The spinning plant of the cotton-cloth factory is one-third larger than that of the yarn mill. The factory has 692 weaving machines, 500 of which are at present in operation. The output per day is about 20 bales of a cloth something thicker than foreign calicoes. Each bale consists of 15 pieces, and each piece is 40 yards in length. All of the machinery in this plant was manufactured in England in 1891. About 1,200 persons are employed in the mill, the boys attending to the spinning and the men to the weaving, etc. The power for the whole plant is supplied by an engine of 2,200 horsepower, having six boilers.

SALVADOR.

MEXICAN VERSUS AMERICAN PIECE GOODS IN THAT MARKET.

The following information relative to the appearance of Mexican piece goods in the Salvadorean market is furnished by Consul-General Samuel E. Magill, of San Salvador:

Early in the present year the representative of a Mexican cotton mill appeared in this city and offered grays or sheetings and zephyrs to the local merchants in competition with American goods of a similar class. Several of the merchants purchased thereof in amounts of from $600 to $2,000 gold, at 5 cents per yard f. o. b. Acajutla, cash on receipt of goods.

Of course the recent substantial drop in the price of American cottons will give them the market for a while, but when prices again *become* normal our cotton exporters will find a rival for the market *of Central America* in the mills of Mexico, especially if the Mexican

Steamship Company, now operating a line of steamers between the Pacific ports of Mexico, avails itself of a privilege in its charter to extend its voyages to Central American ports, for which increased service the Mexican Government is now ready to pay a substantial subsidy.

TEXTILE INVENTIONS.

GERMANY.

NEW LEASING MACHINE EFFECTS ECONOMY IN YARN PREPARATION.

Consul Thomas H. Norton, of Chemnitz, thus describes a newly invented German machine for leasing yarn:

One of the slowest operations in connection with weaving is that involved in the leasing of yarn when mounting warps. Hitherto this has been done by hand, with considerable expenditure of time. A recent invention of Saxon weavers represents a distinct step forward in substitution of machine work for hand labor in the adjustment of warps for use on the loom. Their mechanical device has been patented in Germany (D. R. P. No. 195933) and in several other countries, and a dozen of the new machines have recently been constructed in Saxony and are in active operation in Germany and Austria. They are sold for 1,000 marks, or $238.

Two views of the device [illustration of which may be obtained from the Bureau of Manufactures] show the comparative simplicity of the mechanism and the method of its application. The warp beam, with its yarn, is laid in the channel of the machine. Sections of the yarn, covering a width of about 2 feet usually, are then stretched forward, and the mechanism is placed alongside. On being put in motion it leases the threads rapidly and accurately on the lease rods, the action being automatic. The rapidity attained is many times that of leasing by hand. It ranges from 20,000 to 25,000 threads per hour. Changes of gear, in consequence of alteration in the thickness of the yarn, are required only when there is an increase or decrease of over 65 threads per inch. The machine can be constructed so as to lease the entire contents of any warp beam.

ADVANTAGES OF THE INVENTION.

Experiment has shown, however, that equally good results are secured by the use of a smaller, less expensive, more compact arrangement, leasing successive sections, as shown in the illustrations. It is claimed that the machine remedies the disadvantages that now accompany the combined use of sizing and warping machines, without subsequent leasing. Piecers are now paid from 13 to 18 pfennigs (3.1 to 4.3 cents) more per 1,000 threads for attaching the warp yarn when no lease is present. The employment of the machine in ordinary weaving causes in this connection alone a weekly saving of $15 and more in piecers' wages, apart from the greater rapidity in joining threads, especially in preparing a jacquard loom for use, when the yarn has been properly leased. The inventors state that all sizes of yarn can be leased, and that especially good results can be obtained when the beam carries the finest grades; further, that all necessity for piecers in connection with threading is avoided, and that greater evenness and uniformity in the subsequent woven fabric are obtained than is the case when the leasing is done by hand.

UNITED KINGDOM.

LACE MACHINE FOR EFFECTING ECONOMY AND LARGE PRODUCTION.

Consul Frank W. Mahin reports that what is claimed to be the largest lace machine ever made has just been built in Nottingham, which he thus describes:

The machine contains many important improvements, designed to counteract the influence of a foreign machine of similar character which has proved a serious competitor to the usual type of Nottingham lace machines. The new machine is 41 feet long and produces lace 260 inches wide. It is intended chiefly for heavy Torchons and Maltese laces.

A special feature of the machine is the entire absence of vibration—a defect fatal to many lace machines. This improvement, which is deemed remarkable because of the machine's great size, is produced by special gearing and by an arrangement of concussion springs instead of the ordinary elastic or spiral springs. Other improvements simplify and make easy the operation of putting in threads to replace broken ones and of taking the carriages out of the machine—operations slow and laborious in many machines and sometimes damaging the lace that is being woven. The new machine is so satisfactory that the construction of several more of the same kind is begun.

BRITISH FLAX HANDLING.

AN IMPROVED PROCESS FOR UTILIZING REJECTED FIBER.

Consul Frank W. Mahin writes from Nottingham that a resident of Long Bennington, Lincolnshire, has invented a process whereby that quality of flax fiber which has always been cast aside or destroyed as worthless may be bleached and turned into a valuable commodity. The consul adds:

The nature of the process is kept secret, but the samples shown as products of the invention seem to fully sustain the claims.

According to the explanations, the inventor operates particularly on fiber resulting from flax grown for linseed oil. While connected with a Canadian flax-growing firm, which used the fiber chiefly for making binder twine, an attempt to bleach this fiber suggested to the inventor the possibilities of the process. He returned to Nottingham, where the facilities for experimenting with bleaching were better, and now claims that his process is successful. Of two samples of the product shown to me, one is practically as white and fine as cotton. This is claimed to have all the hygienic advantages of linen over cotton as well as much greater absorbent power. The other sample is creamish hued, with a long, tough staple resembling coarse thread. This and similar results of the process, the inventor says, can be used for waste, for boxes of railroad car wheels, for gun cotton, upholstery work, etc.

A great difficulty encountered by the inventor was the straw in the flax fiber, but after many trials and failures he finally discovered a chemical process whereby the straw was dissolved to a minimum. As to cost of the process no direct statement is made, but the inventor 's that the flax fiber can be bleached at less cost that that of bleach-

ng cotton.

Part of the experiments are stated to have been made with fiber of flax grown by a Lincolnshire farmer. Having secured linseed from his crop, the farmer could do nothing with the fiber. The inventor states that in two hours he bleached it perfectly white, only needing the machinery to turn it into "linen wool."

The invention derives its chief importance from the utilization of a hitherto rejected and worthless substance. The amount of this the world over must be vast, and large in any country where flax is grown extensively. The inventor states that in the Province of Ontario over 6,000 acres are devoted to flax and nearly 50,000 acres in other parts of Canada; and that the Ontario agricultural department has spent large sums of money in seeking some means of utilizing the rejected flax fiber, but without tangible success. As over 25,000,000 bushels of flaxseed are annually produced in the United States, presumably resulting in an immense quantity of waste fiber, there is apparently abundant material for this invention to work upon.

FURTHER SPINNING CURTAILMENT.

ANOTHFR REDUCTION OF HOURS OF LABOR IN IRISH MILLS.

Consul Samuel S. Knabenshue, of Belfast, reports that the Irish Flax Spinners' Association have further reduced the hours of labor in the spinning industry by five hours per week from June 15. He adds:

Full time in the mills is fifty-five hours per week. In November, 1907, this was reduced to forty-five hours, in February last a further reduction was made to thirty-seven hours, and the present cut is to thirty-two hours. It was agreed, however, that the women spinners shall not be reduced in wages, but shall receive the same pay for thirty-two hours as they have been receiving for thirty-seven hours. The step now taken is simply to reduce the output of yarns, which is now larger in volume than the demand.

UNDER-GARMENT MARKETS.

MEXICAN TRADE OF GROWING IMPORTANCE TO AMERICAN MANUFACTURERS.

In reply to a communication from a New York manufacturing company desiring information concerning the extent of the trade in Mexico in women's under-garments, Consul William W. Canada, of Veracruz, writes as follows:

The trade in women's ready-made underwear, and other lightweight garments of a similar nature, is assuming larger proportions from day to day, and promises to be of importance to American manufacturers seeking trade therein in this market.

With a view of placing before the American manufacturers all the data obtainable with reference to the amount and value of imports, the place of origin of the goods, names of the principal importers in this line, amount of duty payable on this class of merchandise, etc., this consulate has made diligent inquiries.

IMPORTS AND WHENCE IMPORTED.

Owing to the system of classification under the Mexican tariff, the actual amount and value of a special line of goods can not be obtained.

All articles of wearing apparel are classed under a general head, which includes everything coming under the classification of textiles and cloth. These imports amounted during the year of 1906 to nearly $5,000,000 gold. The section of the tariff providing for imports of this kind reads as follows:

SECTION 369. Ready-made clothing, not specified, and separate parts thereof, when sewn, of cotton of all kinds and textures, even trimmed with lace, embroidered edgings of cotton or linen, silk ribbons or ornaments of common metal, for every kilogram (2.2 pounds), legal weight, $2.75 Mexican ($1.37 gold).

Legal weight is the weight of an article with its wrapper, cover, can, box, etc., without taking into consideration the weight of the outside packing case.

At the present time many of these goods are procured from France, and in many instances they are purchased direct by the consumer. This practice is followed by the richer class. American goods are also in use, mainly due to the numerous catalogues introduced here by American residents, who have shown them to their friends. Professionals are also making use of these publications in copying the styles that have found favor with the people.

It must not be supposed that all the importations at this port are consumed in this district, much of the merchandise arriving here being destined for points in the interior, principally Mexico City, where there are large modern establishments on the lines of department stores in the United States. [A list of the principal importing dry goods houses at Veracruz is on file in the Bureau of Manufactures.]

NICARAGUAN SILK CULTURE.

FIFTY-YEAR CONCESSION GRANTED BY THE GOVERNMENT.

Consul José de Olivares forwards from Managua a copy of a fifty-year concession granted by the Government of Nicaragua for the introduction of silk culture into the Republic, which is deemed suitable for this industry. A grant of 12,355 acres of land and water power is given, and three years are allowed for experimental work, within which period plantations of the mulberry tree must be established in various parts of the Republic, with a view to ascertain the locations best adapted to the production of silk.

METALS AND MINERALS.

THE WORLD'S MINES.

CANADA.

STATISTICS OF THE OUTPUT OF MINERALS IN BRITISH COLUMBIA.

Consul Abraham E. Smith, of Victoria, writes that the recent official report of the minister of mines of British Columbia shows that 1907 was the record year of the province, as the following summary will make clear:

The output for last year was valued at $25,882,560, being an increase of $902,014 over that of 1906. The following table, which gives the different items of the products, shows that the increase was entirely in coal and coke, there being a decided falling off in the output of gold, silver, lead, and copper:

Description.	1906.		1907.	
	Quantity.	Value.	Quantity.	Value.
Gold placer.....ounces..	.....	$948,400	41,450	$828,000
Gold lode.....do....	224,027	4,630,639	196,179	4,055,020
Silver.....do....	2,990,262	1,897,320	2,745,448	1,703,825
Lead.....pounds..	52,408,217	2,667,578	47,738,703	2,291,458
Copper.....do....	42,990,488	8,288,565	40,832,720	8,166,544
Coal.....tons..	1,517,303	4,551,909	1,800,067	6,300,235
Coke.....do....	199,227	996,135	222,913	1,337,478
Other minerals.....	.....	1,000,000	.....	1,200,000
Total.....	.....	24,980,546	.....	25,882,560

INCREASE IN COAL, DECREASE IN OTHER PRODUCTS.

The value of the total products of the mines of the province up to the end of 1907 is given as $299,526,282. Coal makes the largest showing, viz, a total of $86,972,551, followed by placer gold at $69,549,103 and by lode gold at $45,070,717.

For the calendar year 1907 there was a decrease in placer gold of $120,400 and in lode gold of $575,619; total decrease in gold production $696,019, while in silver production the decrease was $193,495. In lead there was a decrease in output of 4,669,514 pounds. The copper mines were run only nine months of the last year, owing partly to shortage of coke, but later in consequence of financial depression, with the result that the total output for the year was 40,832,720 pounds, or 2,157,768 pounds less than in 1906.

The gross production of coal in 1907 in the provin 2,219,6
tons, of 2,240 pounds each, of which 44,760 tons were
leaving a total consumption of 2,174,848 tons of c
amount 916,262 tons were sold for consumption in (
tons for export to the United States, and 22,038 for
countries, making for 1907 the total coal sales 1,589,3

balance of the coal, 419,541 tons were used in making coke and 165,931 tons under colliery boilers, etc.

No iron ore is mined in the province; the only attempt thereat, at Quasino Sound, Vancouver Island, has been found unprofitable and abandoned. The mining of zinc ore is also practically at a standstill.

ELECTRICAL REDUCTION OF ORES.

LOAN GRANTED BY PROVINCE FOR ESTABLISHMENT OF A PLANT.

Consul L. Edwin Dudley, of Vancouver, states that in consequence of his report regarding the establishment of a plant at Nelson, British Columbia, for the electrical reduction of ores containing a considerable quantity of zinc he has received a number of inquiries. He now adds the following:

I understand that a loan of $10,000 has been granted by the provincial government to assist in the establishment of the new plant, which will probably soon be in working order. A pamphlet containing an article published in the Journal of the Canadian Mining Institute treating with the smelting of zinc ore is forwarded. [This will be loaned to interested persons making application to the Bureau of Manufactures.]

CHINA.

SHANTUNG PROVINCE GIVES PROMISE OF GREAT MINERAL RICHNESS.

Consul Wilbur T. Gracey, of Tsingtau, furnishes the following information regarding mining in the Chinese province of Shantung:

The province has valuable mineral resources, of which only a few surface deposits have been utilized by the Chinese.

The further development of the mica beds near Tschoutschong has been retarded. It appears probable that the mica beds continue on a larger scale below the surface, and the products which have been prepared at the mines and offered for sale in Germany have been bought up at good prices.

It is stated that copper has also been found in the Shantung province, as well as gypsum, and that large quantities of clay exist which is being made into bricks and tiles, and that sandstone and building stone are found in great abundance.

IRON-ORE DEPOSITS.

Near the railway station of Tsinglingtschen there is an iron-ore deposit on the Tiehshan (Iron Mountain) of no small proportions, the commercial utility of which has been determined by investigation and by scientific prospecting during recent years. Analyses have shown that the deposit consists of magnetic iron ore and red iron ore, which contains up to 65 per cent of metal. This result has been confirmed by further inspection of samples taken from drillings, drifts, and shafts of the prospecting works of the German Mining Society. The deposit is said to be about 2 kilometers (1.242 miles) long, 35 meters (38 yards) deep, and has a rather heavy dip. There is said to be sufficient ore in sight to warrant work on a large scale. Further investigation has proved that a vein exists at Sy-bau Mountain, where prospecting has been carried on, near the railway station *of Tschangtien.*

Considering the high percentage of iron, the other elements not being of a nature to make reduction difficult, and the fact that a plentiful supply of limestone is near at hand, it appears as though the prospects for operating this field were favorable. This work would meet a growing demand among the agricultural population of the district, who at present secure their needed supply of iron by importing scrap iron and old horseshoes from abroad, and pigs from the province of Shansi.

The Shantung Mining Company has under consideration the construction of reduction works, and it is understood that the matter will be taken up as soon as the development of the company's Poshan coal mines guarantee a sufficient supply of coke.

Owing to the fact that the province is the most densely populated in China, having an area of 55,984 square miles and 38,247,900 inhabitants, or 683 to the square mile, labor is available at a low cost, although the tendency appears to be to charge higher prices for working in German mines than is expected in the Chinese mines, and for other work in the province.

CHILE.

INCREASING COAL CONSUMPTION—OPENING UP NEW LOCAL DEPOSITS.

Consul Alfred A. Winslow, of Valparaiso, reports that the consumption of coal in Chile has increased very rapidly in the last five years, as indicated by the following table, just published by the Sociedad Nacional de Minera, which shows the quantity of foreign and domestic coal consumed in that country:

Year.	Foreign.	Domestic.
	Metric tons.	*Metric tons.*
1903	797,634	51,097
1904	822,471	61,624
1905	1,179,058	673,927
1906	1,019,834	932,488
1907	1,489,154	832,612

From these statistics it is clear that the industries of Chile are making great strides, as it shows a gain in five years of nearly 300 per cent in the quantity of coal consumed, which is really a fair index of the progress of the country and its commerce.

A strong effort is being made to open up the very extensive coal fields of the Province of Arauco, south of Coronel. A much better grade of coal is found in the interior of that Province than has ever been mined in Chile for commercial purposes. It is said to be very good coking coal and suitable for use in the Chilean navy.

The state railways of Chile consume annually from 350,000 to 400,000 tons of coal, of which about one-half is imported.

ITALY.

INCREASED EXPORTATIONS OF SULPHUR AND STOCKS ON HAND.

In transmitting the following statement [illegible] t exports of Sicilian sulphur to the principal countr[illegible] dur[illegible] n months ended March 31, 1907 and 1908, Consul [illegible]na,

reports that the amount on hand on May 4, 1908—about 600,000 tons—will tend rather to increase than decrease:

Whither exported.	1907.	1908.	Whither exported.	1907.	1908.
	Long tons.	*Long tons.*		*Long tons.*	*Long tons.*
United States	12,894	12,786	Russia	13,236	11,859
France	54,808	59,744	Belgium	11,957	10,654
Italy	37,165	35,501	Portugal	7,337	8,295
Germany	26,696	28,314	Holland	6,690	6,884
Austria-Hungary	19,074	18,991	South Africa	6,025	6,235
Greece, Turkey, and the Balkan States	17,870	23,651	North Africa	3,582	2,720
United Kingdom	16,180	13,114	All other countries	10,200	15,093
Sweden and Norway	13,891	18,080	Total	257,605	271,921

[Owing to the development of the Louisiana sulphur deposits the imports of sulphur into the United States have been decreasing. The receipts in 1905 were 83,201 tons, worth $1,522,005; in 1906, 72,404 tons, worth $1,282,873; and in 1907, 20,299 tons, worth $356,739. American exports of sulphur have, in the meantime, increased from nothing in 1905 to 14,437 tons, valued at $289,474, in 1906, and to 35,925 tons, valued at $734,749, in 1907.—B. of M.]

FEDERATED MALAY STATES.

INCREASE SHOWN THIS YEAR IN THE OUTPUT OF TIN.

Vice-Consul-General George E. Chamberlin, of Singapore, states that the following table shows the output of tin from the four states of the Federated Malay States during the first three months of 1908, in comparison with the same period in 1907:

Provinces.	1908.	1907.
	Tons.	*Tons.*
Perak	7,183	5,875
Selangor	4,523	3,836
Negri Sembilan	1,019	1,045
Pahang	502	460
Total	13,227	11,216

The increase in the 1908 period was 2,011 tons of 2,240 pounds each. While the export of tin and tin ore has increased 16 per cent, the duty collected has decreased by $358,656, owing to the low price of tin.

UNITED KINGDOM.

GOVERNMENT STATISTICS CONCERNING MINES AND QUARRIES.

Consul-General Robert J. Wynne, of London, reports that the following statistics for 1907 concerning the mines and quarries of the United Kingdom are contained in a Board of Trade bluebook recently issued:

Persons employed in coal mines	940,618	Number of coal mines	3,327
Persons employed in metalliferous mines	31,602	Number of metalliferous mines	748
Persons employed in quarries	87,814	Output of coal (tons)	267,830,962
		Output of iron ore (tons)	15,731,604
		Lives lost in coal mines	1,245

The coal output exceeded by 16,763,334 tons the output of the previous year.

PETROLEUM INDUSTRY.

MEXICO.

HOME RESOURCES WILL SUPPLY THE HOME OIL DEMANDS.

In stating that Mexico is destined to become a prominent factor as a producer of refined petroleum, Consul W. W. Canada, of Veracruz, writes as follows concerning present development:

Oil-producing lands have been discovered in the State of Veracruz, near the Isthmus of Tehuantepec, and the flow of oil in the wells has been of such a quantity and quality that an English company has erected a large refining plant at Minatitlan, which is not only built on the most modern lines, but as regards capacity is the largest by far in this Republic. The plant will be in operation within a short time.

Illuminating, lubricating, and fuel oils are to be manufactured. The company has erected sixteen 1,000-barrel crude stills, seven 500-barrel lubricating-oil stills, seventeen 200-barrel tar stills, five 1,000-barrel steam stills, three 1,000-barrel agitators, eight 500-barrel agitators, ten 95-foot storage tanks, each of a capacity of 47,000 barrels, and in addition 26 storage tanks that range in capacity from 2,000 to 5,000 barrels each. The company owns the wells. A certain part of the production is to be fuel oil, and as the company also operates the Tehuantepec National Railway the latter's engines will be supplied with fuel oil. Large storage tanks are being erected at Veracruz and other places to supply the several railways in this part of the country. When this plant is in operation it is expected that the Mexican market for foreign petroleum will be a thing of the past.

OPERATIONS OF AN AMERICAN COMPANY.

An oil company with headquarters at St. Louis, Mo., with refineries at Mexico City, Veracruz, and at Tampico, has had for many years practically a monopoly of the trade in Mexico. The company carries its crude oil from Philadelphia to Veracruz and Tampico by tank steamers, from which it is pumped direct into the company's storage tanks.

The Veracruz refinery has a capacity of about 350,000 gallons of crude per month; the one at Tampico is much larger and has at present a capacity of 1,000,000 gallons but is being enlarged, and when this has been accomplished will have a capacity four times as great as at present. The Mexico City plant has been closed, and the material will be utilized in part for the increased capacity at Tampico. There is another smaller plant operated by a stock company at Veracruz, but its output does not materially influence the market.

TARIFF RATES PROTECT REFINING.

The business of refining petroleum has been enjoying special privileges in this that the tariff has been a barrier to American refiners. The import duty on crude mineral oil is fixed at $3.30 Mexican ($1.64 United States currency) per 100 kilos (220 pounds); the duty on refined, however, is $19.80 Mexican ($9.86) per 100 kilos, legal weight, and on lubricating oils $13.20 Mexican ($6.57) per 100 kilos, gross weight. Legal weight is the weight of the article including that of its wrappings, cans, etc., but not the outside packing case. The costs of

importation are slightly in excess of the figures given to cover harbor and other improvements by which the municipality benefits.

Illuminating oils are now sold at Veracruz at the following prices: Standard white, 110 test, $6.25 Mexican ($3.11) per case of two 5-gallon cans, and is sold in bulk from tank wagons at 14½ centavos Mexican per liter, the equivalent of about 27 cents United States currency per gallon. Naphthas bring from $7.95 to $8.95 Mexican ($3.96 to $4.46) per case of two 5-gallon cans.

The packages used are cases, galvanized-iron barrels, and 100-gallon iron drums. Wooden barrels are used to some extent on foreign lubricating oils. Nearly all illuminating oils that have been imported were packed in cases containing two 5-gallon cans each.

BRITISH INDIA.

EXTENSIVE DEPOSITS IN THE COUNTRY AS YET UNTOUCHED.

Consul-General William H. Michael, in writing from Calcutta that the production of petroleum in India, outside of Burma, has not attracted much attention in the commercial world, gives the following general information about these resources:

India proper has her oil fields, and when they have been properly developed will without doubt cut a considerable figure in the world's supply of oil produced from crude petroleum. At Kafir Kot this earth oil exudes from brown bituminous sandstone, and is found floating on the surface of springs. It is also found at Ratta Hotar hills, at Jobba, of Karsan, west of Chakratta, 9 miles east of Kalabagh; at Dhadur, 3 miles west of Kabbakhi, in the salt range; at Narsinghpur, also in the salt range; at Jabba, near Nurpur; in the Algod Ravine at Kafir Kot on the Indus River, and in other places. The Bazar of Dehra Ismail Khan, on the hills of the Indus, had it for sale as a medicine long before petroleum was discovered in America, or had been developed in Burma. Petroleum was found many years ago in large quantity at a place called Makoom, not many miles from Jeypur, on the Dehing River. But the leads have remained comparatively undeveloped, and it is as yet unknown to what extent petroleum exists in India.

In Assam the wells near Digboi are the most promising, a company with $1,550,000 capital operating a large refinery there. There are twenty-two wells near Digboi, but five or six have been abandoned, as they were not sunk to a sufficient depth. However, while the deepest well goes down 1,865 feet, it does not yield as much oil as some that are little more than half as deep. The yearly outturn is now about 63 tons of candles, 573 tons of paraffin wax, and 1,200,000 gallons of kerosene oil. Nearly all the oil is sold locally in Assam, or in the neighboring districts of Bengal.

The government statistics do not show the amount of crude oil, refined oil, or paraffin wax derived from the Indian wells; but, whatever it may be, there is none of it exported from the country unless it be some of the wax. Burma (really a province of India) is the producer and exporter of kerosene oil and the by-products, such as paraffin. In 1906–7 she produced 137,654,000 gallons and exported in that year 55,796,000 gallons, all of it going to Indian ports. The

exports of paraffin wax amounted to 60,209 hundredweight, valued at $414,330. The candles made of petroleum products amounted to 5,095,000 pounds, valued at $473,330.

The petroleum deposits of India, including Burma, have scarcely been disturbed, and the magnitude of the possible trade of India in the products of petroleum can hardly be estimated.

RICH BURMA OIL FIELD.

A HALF-YEAR'S PROFITS OF A BIG PAYING PROPERTY.

Consul-General Michael reports as follows on the operation of the Rangoon (Burma) Oil Company for the six months ended March 31, 1908:

A net profit is shown of $206,750, after deducting $16,000 to the account of depreciation, $5,000 due to the late managing agents, and $730 for securing leases for territory. The shareholders will get a dividend of 50 per cent, and a balance of $47,384 will be carried forward to next account. The property controlled by the company is just at the threshold of development and has a contract covering its output for ten years at a price that will pay a handsome profit. The paid-up capital is $318,700, and the reserve amounts to over $100,000.

Burma-made paraffin wax candles are working their way into the commerce of Persia, against the Russian, Belgium, and the Netherlands product, the imports of this commodity having doubled in the last year. The candle is 7⅞ to 8 inches in length, of the usual diameter. Six candles are neatly put up in a packet, and 30 packets in a case.

FORMOSA.

PROGRESS OF THE INDUSTRY ON THE ISLAND.

Consul Julean H. Arnold, writing from Tamsui, gives details from reports by the Formosan Government experts on the progress made in boring for petroleum in the northern part of that island. One company has expended $150,000 on developments and has wells now producing 1,200 to 1,500 gallons daily. The transportation costs being high, the company plans to construct a refinery at Bioritsu station, to which point it may be possible to pipe the products of its wells. The particulars of the company's operations, as well as the plans of another prospecting concern, are contained in the consul's report, which may be seen at the Bureau of Manufactures.

ROUMANIA.

INCREASING PRODUCTION IN THE CONSTANZA DISTRICT.

Consul-General Norman Hutchinson, of Bucharest, reports that according to a recent article in a Roumanian publication the petroleum reservoirs of the district of Constanza during 1907 took care of 460,900 tons of petroleum. The quantity exported by the tank steamships represented a value of $65,000. Important improvements are in progress at the petroleum station of Constanza. It is estimated that within a short time the port of Constanza will be able to export 1,000,000 tons of petroleum per annum.

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RESCUE WORK IN MINES.

EUROPEAN EFFORTS TO SAVE LIVES IN UNDERGROUND INDUSTRY.

Consul Maxwell Blake, of Dunfermline, reviews the progress being made for safer mining methods in Great Britain, as well as the Continent, as follows:

Since the colliery explosions at Courrieres and the more recent disasters in the United States and elsewhere, a public demand has been awakened for some kind of organized rescue work in connection with mines, which is now attracting the cooperative aid of collier owners and expert engineers throughout England and Scotland.

In Austria and France the provision of rescue apparatus in mines is made compulsory. In Germany it is optional, but has been voluntarily adopted. In Russia where over 50 men are employed in one mine it is provided that "every colliery must have a rescue corps trained to work in irrespirable gases;" that "the number of men in each corps must be equivalent to 4 per cent of those engaged in the largest pit or shaft work," and "that the number of completely equipped sets of breathing apparatus at each colliery must not be less than three."

The British royal commission on accidents in mines, which sat last year, reported upon the subject of rescue apparatus as follows:

We have considered whether it would be desirable to make provision of any rescue appliances compulsory, and we have come to the conclusion that sufficient advance has not been made in this country to justify such a course at present.

TYPES OF APPARATUS.

The breathing appliances referred to have been too frequently described of late in mining and scientific journals to render complete description here necessary. The pneumataphore is worn about the chest and is said to be trustworthy for about two hours. In this appliance the expired air passes through chemical compartments by which it is regenerated and breathed over again. It is ill adapted for laborious exertion, however, the helmet appliance being preferable under such circumstances. This apparatus is operated on the same principle as the diving helmet, the air being supplied through flexible tubes by means of pumps. The helmet likewise is said to possess impractical features, as its use is unsafe for any distance over 200 yards from fresh air. In addition to these there is the "Weg," the "Fleuss," the "Draeger," and the "Shamrock," all differing more in detail than in principle.

The desired requirements for an effective rescue apparatus may be summarized as follows: Lightness of weight, a sufficiently dependable supply of oxygen, an effective chemical absorbent of CO_2, reliable air-tightness of construction, and convenience of structure. It is not claimed that so far there is any one appliance on the market combining all of these features.

RESCUE ORGANIZATION—MINING COLLEGE.

What is of quite as much importance to the success of rescue work as the breathing appliance is the trained rescue corps. In both *England* and Scotland several rescue stations have been organized

in connection with experimental galleries devised for the purpose of training colliers in the methods of effective rescue work in the event of explosions, pit fires, and all other underground accidents. A number of men are exclusively identified with each central station, and by numerical rotation instructions are given to the surrounding colliers, all of whom in times of emergency thus become available for intelligent rescue assistance.

The colliers lend themselves to these exercises with much willingness and considerable rivalry exists among them for the honors at the public exhibitions which are frequently arranged.

There is also now under way in this district the construction of a Mining College, as the desirability of offering the working miner opportunities for a more intelligent knowledge of his work has long been felt of economic importance. In connection with the Mining College, there will also be a convalescent home, and a hospital corps devoted to ambulance work.

RECOMMENDATIONS OF A COMMISSION.

Recommendations offered the Clackmannan Coal Owners' Association by their commission upon rescue stations embrace both exhaustive inquiry and personal investigation, and contain suggestions of practical mining engineers and experts, and should be of much value to all those interested in this important subject. It is advised

that a central station be equipped with a sufficient number of rescue apparatus, kept constantly ready for use, as well as at least five appliances at each separate colliery within the district of the central station; that telephonic communications be directly established with these outlying collieries; that at least 30 men in each colliery, all of whom thoroughly know the mine, be regularly instructed in the use of the various appliances provided; that the central station should be in charge of only expert operators.

The cost of the station, exclusive of apparatus, is estimated at $6,000 and an additional $1,500 per annum for up-keep. As men generally live for a considerable time after an explosion, the use of the breathing apparatus may aid in restoring ventilation, and thereby be the means of saving those who would otherwise become the victims of after-damp.

As the various rescue apparatus are undergoing very rapid improvement, it is to be hoped that the day is not far distant when mining will be carried on with comparative safety of life.

BAUXITE AND ALUMINUM.

GROWTH IN PRODUCTION OF RAW MATERIAL AND FINISHED ARTICLE.

Much interest having been aroused by the recent consular reports from France on the trade in bauxite the following information from the "Mineral resources of the United States," by W. C. Phalen, will be of interest:

The production of bauxite in the United States in 1907 amounted to 97,776 long tons, valued at $480,330. This is an increase of 22,444 tons, or almost 30 per cent, over the production of the year before, and an increase in value of $112,019, or a little over 30 per cent. The average price of the material at the mines was about $4.91 per long ton, an advance of but 2 cents over the returns for 1906.

In order to show the annual consumption of bauxite and its value in the United States during the last five years, the following table has been compiled.

which includes the annual production, imports, and consumption, together with the value of each, respectively:

	Production.		Imports.		Consumption.	
	Long tons.	Value.	Long tons.	Value.	Long tons.	Value.
1903	48,087	$171,306	14,889	$49,684	62,976	$220,990
1904	47,661	235,704	15,374	49,257	63,035	285,961
1905	48,129	240,292	11,726	46,517	59,855	286,809
1906	75,332	368,311	17,809	63,221	93,141	431,532
1907	97,776	480,330	25,066	93,208	122,842	573,538

WORLD'S PRODUCTION.

The following table shows the world's production of bauxite in 1904, 1905, and 1906:

	1904.		1905.		1906.	
	Long tons.	Value.	Long tons.	Value.	Long tons.	Value.
United States	47,661	$235,704	48,129	$240,292	75,332	$368,311
France	74,449	131,229	101,378	205,738	115,926	229,952
United Kingdom	8,700	8,340	7,300	8,880	6,654	13,274
Total	130,810	375,273	156,807	454,910	197,912	611,537

The chief uses of bauxite are (1) as raw material in the production of metallic aluminum. This is by far the most important use of the material. A large part of the entire output of the State of Arkansas has been devoted to this purpose, and the figures of production from this State have shown remarkable growth during the past few years.

(2) In the manufacture of aluminum salts. A large part of the Georgia-Alabama product is used for this purpose, owing to its relative freedom from oxide of iron.

(3) In the manufacture of artificial abrasives (alundum).

(4) In the manufacture of bauxite brick. This last use in refractory brick is of recent date. The bricks are of chief value in resisting the corrosive action of molten metal at high temperatures, and hence are applied in basic open-hearth steel furnaces, in furnaces for refining lead, in copper reverberatory furnaces, and in the linings of rotary Portland cement kilns.

GROWTH OF ALUMINUM INDUSTRY.

The magnitude of the aluminum industry is shown by the following table, which gives the production in the United States since the beginning of the industry in 1883:

Year.	Pounds.	Year.	Pounds.	Year.	Pounds.
1883	83	1892	259,885	1901	7,150,000
1884	150	1893	333,629	1902	7,800,000
1885	283	1894	550,000	1903	7,500,000
1886	3,000	1895	920,000	1904	[a] 8,600,000
1887	18,000	1896	1,300,000	1905	[a] 11,347,000
1888	19,000	1897	4,000,000	1906	[a] 14,910,000
1889	47,468	1898	5,200,000	1907	[a] 17,211,000
1890	61,281	1899	6,500,000		
1891	150,000	1900	7,150,000	Total	100,530,779

[a] Consumption.

The value of the exports of aluminum and manufactures of aluminum of domestic production for the last four years has been as follows: 1907, $304,938; 1906, $364,251; 1905, $290,777; 1904, $166,876.

APPLIANCES.

MODERN MECHANICAL DEVICES.

GREECE.

AMERICAN CINEMATOGRAPH PICTURES WOULD EXCITE INTEREST.

The following information concerning cinematographs in Greece and the interest which would be created in that Kingdom by representative American views is furnished by Consul-General George Horton, of Athens:

There are no motion-picture manufacturers in Greece, all film and apparatus being imported. An import duty is paid on the ribbon of 4.35 drachmas (drachma=$0.193) the oke (2.8 pounds), or, in the case of more expensive films, 20 per cent ad valorem. This is a duty of about 30 cents per pound. Operators of motion pictures also pay the regular theater tax, 10 per cent of the gross earnings. From 7,000 to 10,000 meters (7,630 to 10,900 yards) of film are yearly imported, costing from 80 centimes to 2 francs the meter (15.4 to 38.6 cents per 1.09 yards).

A French firm has an agency in Athens, at the Old Tsocha Theater, where matinees and evening performances are given, and where films can be bought. As this agent has a monopoly, he charges what are regarded, by the theatrical managers and others who apply to him, as very high prices.

CLASSES OF VIEWS THAT WOULD PROVE POPULAR.

There are two principal Greek exhibitors of moving pictures, who travel in Greece, Turkey, Crete, etc. In Athens the principal exhibitor [address obtainable from the Bureau of Manufactures] is the proprietor of a large summer theater. According to this gentleman and other experts, American machinery and films would be welcomed here providing the views were new and striking and the machinery of good quality. A year ago or more a firm advertised "American Cinematograph," and drew large crowds on account of the supposed superior quality of the views. As near as I could ascertain this was not an American cinematograph at all, but the use of the name shows that it is considered a drawing card here, and that something extra good in this line is expected from Americans.

Last year an Italian did good business here for months, showing a large variety of scenes, romantic and comical. The views were really good, clear, and steady; 300 drachmas ($54.54) was paid nightly for the theater, and the receipts were from 1,500 to 2,000 drachmas ($270.70 to $363.60).

The theater proprietor suggests that scenic American views, such as Niagara Falls, Yellowstone Park, hunting scenes, etc., would be popular here. As nearly every Greek has one relative or more in the

United States, views of the different cities, of the great industries, and of the various picturesque regions would also excite great interest throughout this country.

MARKET FOR TYPEWRITERS.

AN AMERICAN MACHINE WELL ADAPTED TO LEVANT TRADE.

Consul-General Horton also reports that an agent at the Piræus is doing a fair business in an American typewriter of the "type-wheel" or "shuttle" variety, to which he adds:

This machine is peculiarly adapted to business requirements here, for the reason that, by an adjustment easily managed, it can be made to write Greek, French, German, English, or any of the languages required in a polygot office. The typewriter business is practically in its infancy in Greece, but the machine in question seems to be making good headway. I saw two in one office, and they were giving excellent satisfaction. Of course, a really good machine that could be sold at a cheaper price would go better, but an inferior article, on the other hand, would not sell at all. Not long ago an importer brought in fifteen typewriters from England which were to be sold at about $20 each. Despite the cheap price, he has not been able to dispose of a single one.

The American machine referred to is the one principally in use for writing Greek. I have talked with one or two firms about a possible opening for other American typewriters, and they say that the only way to introduce a new machine would be to send one or two samples on consignment to responsible parties.

CHINA.

GRAMOPHONES AND TALKING MACHINES AMONG THE CHINESE.

The following information concerning the increasing use in China of musical instruments and goods, and what American manufacturers must do to hold and increase their trade therein, is furnished by Vice-Consul Ernest Vollmer, of Tsingtau:

With the steady increase in the European population of the Far East, a growing demand for all sorts of musical goods is developing, while gramophones and talking machines are finding an ever-extending market among the Chinese. American trade, on the whole, seems to be doing better in the latter line, owing mainly to the excellency of the machines sold and good representation.

One firm in Shanghai which has a general agency for a leading American gramophone is selling large quantities of machines and disks. They establish agencies in all ports, sell directly to the natives, and supply them with Chinese and other musical records, all of which are made in the United States.

Aside from the articles already mentioned this firm sells American banjos, organs, and sheet music in large numbers and quantities. The firm manufactures 15 pianos monthly, for which raw material is all imported, and it distributes large quantities of German harmonicas, the latter being so cheap as to defy competition. Furthermore, American pianolas are being dealt in to a large extent, but *this trade* will soon suffer, as the firm has just started to reproduce *them. The first* specimen has just been finished at the Shanghai

factory and has proved a success. American exporters will have to watch the market closely to keep a trade in their hands in which a satisfactory start has been made.

Germany seems to be the main other nation contending for the market in gramophones. They manufacture cheaper goods and get some orders, a firm in Tsingtau doing a good business in these machines.

UNITED KINGDOM.

A NEW CATTLE-KILLING DEVICE BEING INTRODUCED IN SCOTLAND.

Consul Maxwell Blake reports that in spite of much initial opposition on the part of Scotch cattle killers of the poleax style, a new device is being introduced in the Dunfermline slaughterhouse as a humane substitute for the old style of killing. The consul describes the new instrument as follows:

The weapon is about a foot in length. The barrel is rifled and the muzzle shaped like the mouth of a bell and angled in order to adapt itself to the slope of a bullock's head. By unscrewing the opposite end from the muzzle the cartridge may be inserted. The breech piece having been readjusted, there is a steel guard protecting the hammer, which sets off the bullet. This guard is not displaced until the weapon is about to be used. When the bullock has been firmly drawn up, the operator places the bell end well up on the forehead, and with a sharp tap of a mallet all is over, the beast generally falling down without a struggle. If the bullet has been properly placed, its path should be along the spinal cord, completely severing it. If the instrument has not been well placed, death is a little longer in ensuing, but in any case there is no pain to the animal. Care in the use of the weapon is all that is required, as it is not a thing which can be handled recklessly with impunity.

[A prospectus descriptive of the instrument described is on file in the Bureau of Manufactures.]

ITALY.

POSSIBLE FIELD FOR AMERICAN ELECTRICAL COW MILKERS.

Consul James E. Dunning, of Milan, forwards the following report, made by Clerk Siersdorfer of the consulate, on an opportunity for the American manufacturer to place an electrical cow milker in Italy:

An electrical cow-milking machine is at present sought in Italy, especially in Lombardy, the chief agricultural center of the Kingdom. Nothing of the kind is at present in the Italian market and now seems to be the right time for the American manufacturer to exploit his article. A similar apparatus is offered by foreign agents, but Italian importers wish to get directly in touch with the manufacturer. The constant labor movements in Italy make a machine of this kind of the greatest need. [A list of importers of agricultural machinery in Italy likely to be interested in the article mentioned may be secured from the Bureau of Manufactures.] Electrical cow-milking machines weighing more than 2,204 pounds each are dutiable at $3.09 per 220 pounds; those weighing 2,204 pounds or less are dutiable at $4.82 per 220 pounds.

MACHINERY AND TOOLS.

BRITISH INDIA.

SCHEME TO CULTIVATE A MODEL FARM WITH AMERICAN MACHINERY.

Consul-General William H. Michael, of Calcutta, reports that for two years he has been endeavoring to induce American manufacturers to open a model farm in British India to be exploited with American machinery, to which he now adds:

Attention was incidentally called to some classes of small machinery and implements of American make. The idea has been well received in India, my former reports on this subject having been copied by London newspapers, and many communications have been received from different parts of the Empire commending the scheme, the last communication being as follows:

> I would like to make an offer which may be profitable for this country as well as yours. If the American manufacturers of agricultural machinery, with whom you had some correspondence on the subject of opening an American model farm, will furnish enough machinery and implements required for farming 200 acres of land we will raise a like amount here for the acquirement of land and cost of cultivation. Labor and produce are comparatively cheap here, and we feel sure the project would prove successful, and lead to the introduction of modern argicultural machinery and the adoption of modern methods in agriculture in India.

This offer, especially the spirit of it, ought to arrest the attention of some American agricultural implement manufacturer and lead to business.

AMERICANS FAIL TO COMPETE FOR NEEDED EQUIPMENTS.

Consul-General Michael furthermore calls the attention of American machinery builders to the opportunities they are losing in British India, as follows:

A new $166,000 sugar refinery is being erected at Bombay and is to begin operations by the end of October. The necessary refining plant has been ordered from Scotland through a Bombay and Calcutta firm. While the Americans manufacture the best and most economical machinery for refining sugar, yet having no active agents on the spot British manufacturers get the contracts for supplying machinery.

This same firm of agents got the contract for putting in a cotton-seed oil mill here at Calcutta in spite of efforts to induce the projectors to consider bids from American manufacturers. I was told that as there were no agents of American manufacturers on hand to talk to, it would take too long to accomplish anything by correspondence. There will be more opportunities like these and manufacturers of the United States should have agents on the spot.

The agricultural department of Siam has organized rice exhibitions in the different towns of the Kingdom, to give greater impetus to rice culture, the exchange of selected seed, and the introduction of improved machinery and implements for the planting, cultivating, and treatment of rice, and calls the attention of the manufacturers of such machinery in the United States to the possible trade opportunity which this new movement in Siam might offer, if it were considered of importance enough to send out an agent to overlook the field.

GERMANY.

MARKET FOR AMERICAN IMPLEMENTS IN SAXONY.

Consul Carl Bailey Hurst, of Plauen, furnishes the following information concerning the opportunities which Saxony offers for the introduction of children's garden tools:

Sets of garden tools for children are found infrequently in Saxony. Those on the local market are not so attractive or so well made as similar articles in the United States. Much attention is given to gardening in this district, not only on a large scale, but also to the cultivation of small plots of ground of 800 square feet and less. The neighborhood is densely populated and intensive farming is a necessity. The long days of summer in this latitude make it possible for operatives and others confined during the day in the factories to cultivate small gardens after working hours.

Unused building lots and other unproductive tracts in the suburbs of the large towns are laid out in miniature sections and rented by philanthropic organizations at a nominal figure. Thither repair whole families after the factories are closed, and work out of doors during the twilight. Regular garden tools are plentiful, but the neat sets of tools that are a pleasure to many American children are rarely seen here. There is an excellent opportunity for doing a considerable business in such implements if the proper measures are taken to show these special manufactures, to the end that people may become acquainted with high-grade goods in this line. It would not be long before the durability and other practical qualities of the tools are recognized.

CHINA.

OPENING FOR AMERICAN MINING AND ROAD MECHANISMS.

In connection with a newspaper clipping concerning the projected Tai-Tsao Railway, to run from the coal mines, 8 miles north of Yihsien, to Taiehrchwang, the leading port of South Shantung, on the Grand Canal, Deputy Consul-General Alvin W. Gilbert, of Chefoo, writes:

I have been informed that there is a chance to sell machinery to the mine owners. The few engines and boilers now in use are so old as to be almost unfit for use. Stone is abundant, and there is an opportunity to sell American stonecrushers to the natives who will prepare the ballast for the railroad and for macadamizing some of the roads. Outside of the port cities not a foot of macadamized road—the kind that seems to be adopted wherever modern roads have been made—is to be found. Conveyances for the most part are litter and horseback, while in the western part carts are used. Wheelbarrows are extensively used in transporting goods.

South of Tsining-chow the Grand Canal needs dredging and modern locks installed if this ancient waterway is to continue in use. During the past winter the distance between Taiehrchwang and Hangchwang (20 miles), having eight old-style locks, had in many places a depth of but 6 inches of water. This condition means heavy freight bills and a decrease in all lines of business. All the supplies for the Tai-Tsao Railway must come over this Grand Canal route from Chinkiang, in Kiang Su Province.

FRANCE.

VARIOUS IMPROVED TOOLS WOULD PROBABLY SELL WELL.

Consul D. I. Murphy, writing from Bordeaux concerning the introduction of American handsaws and screw-drivers in that section of France, says:

American handsaws are not known here, the old fashioned "buck" variety being exclusively used. It seems as though American manufacturers might successfully introduce their saws in this region. Other American tools, the quick-acting screw-driver, for instance, might also find a ready market. At the American pavilion at the Maritime Exposition, which was held at Bordeaux from May 1 to November 10, 1907, an American handsaw and a quick-acting screw-driver, brought over by the packer of the Smithsonian Institution, were looked upon with admiration and wonder by the French workmen.

BRITISH SOUTH AFRICA.

COMPETITION FOR STOPE DRILLS IN THE TRANSVAAL.

Vice-Consul-General George Loomis Foster, of Cape Town, transmits a clipping from the Cape of Good Hope Government Gazette with reference to a stope drill competition to be held in the Transvaal, commencing early in 1909. He adds that, as the competition is looked upon as of very great importance and the prizes are liberal, American manufacturers of drills should be deeply interested. [The clipping will be loaned to interested firms who address the Bureau of Manufactures.]

BRITISH ILLUSTRATION MAKING.

PHOTOENGRAVING AND ELECTROTYPING BUSINESS IN BRISTOL.

Consul J. Perry Worden, of Bristol, advises that American dealers in machinery and supplies for photoengravers and electrotypers may find an opportunity for increasing their trade in that part of England, concerning which he writes:

In this city of 360,000 people, a pushing seaport, claiming some of the best daily newspapers in the United Kingdom, there is but one photoengraving establishment and but one electrotyping plant in the entire district. Lithographers and die makers, for the most part, meet the demands of Bristol merchants and the stationery trade, and newspaper editors have but partially broken away from tradition, only one newspaper running three or four half-tones in a Saturday supplement, and another newspaper occasionally using an outline drawing; while newspaper and job printers have objected to the laborious making-ready of process blocks.

Nevertheless, the illustrated periodical, both weekly and daily, is increasing in number and popularity in England. Merchants and printers generally are using half tones more and more, and duplicating their engravings in endurable electrotype. Apparently there is need only of special effort on the part of those thoroughly familiar with details of the two trades to convince printers and printers'

patrons here of the advantages, at least for certain kinds of work, of the half-tone engraving over the lithograph, particularly, perhaps, for work wanted in a hurry, and to increase somewhat the establishment in Bristol for process engraving and electrotyping. Unworked as the field certainly is, it is less to be expected that an entirely new and independent establishment would succeed here, especially at first, than that printers and newspaper publishers, already well established, may be induced to equip themselves for photoengraving at least.

SENDING TO LONDON—AMERICAN SCREENS POPULAR.

Not one of the several extensive newspaper establishments now make their own blocks or copy by wet plates, and some of the largest printers, not caring to expose their forms to the critical gaze of competitors, do not patronize the one electrotyping establishment in Bristol, but send to London for electrotyping, thereby suffering loss of time and sustaining considerable additional expense.

The fact that but one printing house in Bristol, with some four or five copying cameras of the conventional half-tone engravers' type, and gathering its trade not from Bristol and vicinity only, but from Wales and even northern England and Scotland, holds at present much of the field here, reveals an opportunity for general competition.

The additional fact that American apparatus is most generally used by photoengravers in Great Britain, and, perhaps, also by electrotypers, should give whatever assurance is required to American manufacturers and dealers to direct their attention especially to the southwest of England. American screens are held to be the best in the world, and although Germans, with the advantage of a reputation for early experiments in screen making, offer screens at much lower figures, English photographers are said to prefer the American product, even at a higher price, believing that by the better American ruling they secure more even tones of color.

CAMERAS AND HALF-TONE WORK.

American cameras also are much used by English half-tone engravers, notwithstanding the preference of the English photographer in general for the average English-made folding camera for all-round work, and lenses alone of the important apparatus used by process engravers seem to be supplied chiefly by English and German makers. Even with the lens, however, there is a prospect of some additional American trade, for it is well known that a certain type of German lens is often preferred, and that this type is also made in the United States.

Viewing the business of the half-tone engraver and the electrotyper in general, it is evident that process engraving, especially, has hardly taken root here as compared with its widespread use in the United States, and that while it may be a long time before it considerably supplants lithography, there is a possibility of its doing so, in part, at least, as the years go by. The increasing difficulty that English lithographers experience in competing with American lithographers in the bidding for and securing of first-class lithographic stones from the Continent seems to indicate a danger to the future prosperity of this interesting trade in Great Britain and to justify

the expectation that half-tone printing in three colors will attain more and more vogue here.

Although the different temperament of the Englishman may never lead either reader or editor to desire the use of pictures in newspapers in order to cater to the love of notoriety and sensational publication to the extent that it is shown in other parts of the world, there is also reason to believe that both editor and reader will see the fitness of more pictorial embellishment than they are at present employing, and that only the process engraver, with either the half-tone or zinc block, can meet the demands.

LIFE-LINE EXPERIMENTS.

BRITISH TESTS OF KITES, BALLOON, CANNON, AND SHOULDER GUNS.

Consul John L. Griffiths, of Liverpool, advises that the advisory subcommittee appointed by the British Government to formulate a report upon the question of British ships compulsorily carrying life-line throwing apparatus conducted some most important experiments in Liverpool recently, the results of which are briefly described:

The apparatus submitted comprised kites, buoys, and different styles of guns and rockets. The first tests were those of West's drift buoys, which were followed by the much-improved Regurk box kite. It was the opinion of those who witnessed the experiments that the kite is a successful invention and will be very serviceable when the wind is blowing on a lee shore. One of the most interesting of the tests was made with a balloon constructed of gold beater's skin in two weights. It carried a line for 1,500 yards. The principal tests, however, were made with rockets, cannon, and shoulder guns, which have been carried to a high state of perfection. Much interest was shown in the results of these tests, both by the committee and the nautical experts.

The cannon threw a line a distance of 310 fathoms, which indicates the standard of efficiency to which it has been brought. A projectile is inserted in the cannon, and the cannon is fired by means of a friction tube which propels the projectile a certain distance, and from that point a rocket is discharged which carries the line to its destination. The gun is portable and is easily handled. Another interesting feature is that during the daytime the smoke indicates the direction in which the line is carried, while at night the fire of the rocket denotes the direction. For shore use this gun can be placed on a small hand-barrow; and as there are no elaborate accessories, it can be readily worked by any person of ordinary intelligence. This gun is claimed to be the most satisfactory apparatus for heavy work, as, for example, from the deck of large liners.

Two shoulder guns impressed the experts present as the most satisfactory of those produced. They are light, easily handled, and may be fired from any position by a man or boy. The more powerful of the two guns carried a line 345 feet and the other 342 feet. [Illustrations of the shoulder gun and rocket cannon, as well as the names of their inventors and that of the balloon, are filed at the Bureau of anufactures.]

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

AUSTRALIA.

NEW REGULATIONS GOVERNING IMPORTATION OF GUNS.

The recently enacted tariff of Australia provides for the following duties on arms:

Number.	Arms, viz—	General tariff.	Tariff on goods, the produce or manufacture of the United Kingdom.
139 A	Double-barreled guns and rifles bearing the British or other approved test mark.	15 per cent ad valorem.	10 per cent ad valorem.
139 B	Single-barreled guns and rifles bearing the British or other approved test mark.	15 per cent ad valorem.	10 per cent ad valorem.
139 C.....	Revolvers, pistols	2s. 9d. each, or 20 per cent ad valorem (whichever higher).	2s. 3d. each, or 15 per cent ad valorem (whichever higher).
139 D	Barrels or actions, other—		
	(1) For double-barreled guns bearing the British or other approved test mark.	15 per cent ad valorem.	10 per cent ad valorem.
	(2) For single-barreled guns bearing the British or other approved test mark.	15 per cent ad valorem.	10 per cent ad valorem.
139 E	Bayonets, swords, fencing foils, and masks; gun, revolver, and pistol covers, cases and fittings; loading tools and cartridge belts.	22.5 per cent ad valorem.	15 per cent ad valorem.
139 F	N. E. I.....	22.5 per cent ad valorem.	15 per cent ad valorem.
139 G	Rifles, military and match and fittings, including authorized cadet rifles and Morris tubes; gun stocks in the rough; barrels (not fitted to any action) bearing the British or other approved test mark.	5 per cent ad valorem.	Free.
139 H	Guns or rifles fitted with barrels which do not bear the British or other approved test mark, or such barrels imported separately, per double-barreled gun or rifle or barrel for such, per single-barreled gun or rifle or barrel for such.	£5 each.....	£5 each.
	Provided that until 1st October, 1908, guns and rifles or barrels for same not bearing the marks prescribed in subitem H above may be admitted on payment of the duties applicable to weapons coming within subitems A, B, D (1) and (2), of this item 139, if the minister is satisfied that such guns, rifles, or barrels have been efficiently tested by the manufacturers thereof.		

Consul O. H. Baker, of Sydney, reports, under date of June 9, 1908, that the new provision, if enforced, would affect guns of American manufacture exclusively, as the other countries, Great Britain, Germany, France, and Belgium, exporting guns to Australia, all supply official test marks. In view of this fact the importers of mercantile arms at Sydney addressed the Minister for Customs, calling his attention to the following facts:

(a) That in consequence of the fact that many thousands of guns and rifles . . . orted into the Commonwealth annually from the

United States, large quantities are at the present time in bond and in transit.

(b) That no official testing arrangements being in force in the United States, the absence of test marks on weapons imported from that country does not signify that they are not capable of passing the highest test.

(c) It is known that similar arms to those imported by Australian merchants from America are constantly being passed through the British proof houses, proved and marked before being sold in that country, in accordance with the English act.

(d) That weapons of standard United States make are known and regarded throughout the trade as being reliably manufactured, and, further, are, in at least the majority of instances, superior to weapons of similar construction which are imported duly bearing test marks of other countries.

In view of these facts the Minister was asked to consider whether, in framing the regulations which are to govern the testing of arms imported prior to October 1st next, he could adopt some testing method by which the Department could standardize certain makes and models of United States weapons as being passable under proper declaration with entry that goods represented in same correspond in all respects with the weapons standardized by such tests, by so doing obviating the necessity of marking each weapon and the expense connected therewith.

The Minister was also asked whether, in view of the fact that no Government tests are in force in the United States, manufacturers in that country could be allowed to carry out certain specified tests at their respective factories, such tests to be prescribed by the Commonwealth Government, and certified both by distinctive mark on the weapons and certificate on invoice.

As a result of this and other representations, a new order was issued by the Australian Government May 18, which is reproduced here from the British Board of Trade Journal of July 2.

It is stated in the circular containing the order that in order to overcome the difficulties caused to traders by the immediate alteration suggested by Parliament, and as the alteration particularly affects importations of American guns—there being no official proof houses in the United States—the Commonwealth Government have decided that—

(1) Guns imported from countries not possessing official proof houses shall be admitted for the present on guarantee by the importers to produce certificate from the makers that the guns have been subjected to a test equivalent to that of the British proof houses.

(2) With regard to future consignments—*i. e.*, after 1st October next—the guns must be marked with the manufacturer's name and the word "tested," or some mark indicating that the test has been made, and accompanied by a certificate from the manufacturers that the word "tested," or the mark indicating testing, as the case may be, is a guarantee that the gun has been subjected to a test equivalent to that of the British proof houses.

(3) The extra duty deposited under the new subitem 139 (H) is *to be refunded* on guarantee being given by importers to obtain, *within four months*, the certificate referred to in (1).

BRITISH INDIA.

CUSTOMS TREATMENT OF MOVING PICTURE FILMS.

Consul-General W. H. Michael reports as follows under date of May 28:

Moving picture films imported into India are liable to duty at 5 per cent ad valorem. The films can be bonded for reexportation by being placed in a bonded warehouse, but they can not be taken out of bond for exhibition except on payment of duty. If cleared on payment of duty seven-eighths of such duty will be repaid as drawback when the goods are reexported, provided their identity be established to the satisfaction of the collector of customs and the reexportation takes place within two years from the date of importation.

BRITISH NORTH BORNEO.

CHANGE IN DUTY ON SPARKLING WINES.

Consul Lester Maynard, of Sandakan, reports that the duty on sparkling wines in British North Borneo has been changed as follows, quoting from the Official Gazette of April 23, 1908:

Import duty on all sparkling wines shall be levied from this date at the rate of $2 ($1.12 United States currency) per gallon, and not as provided in Notification 36 of 1908.

Notification 36 of 1908 provided an import duty of $1.50 Borneo currency (84 cents United States currency) per gallon on all sparkling wines.

CANADA.

PREPAYMENT OF DUTY ON PRINTED ADVERTISING MATTER.

Replying to an inquiry of the Bureau of Manufactures as to whether duty can be prepaid on printed advertising matter which United States merchants desire to send to customers in Canada, the commissioner of customs of Canada writes, under date of June 22, 1908, as follows:

Where it is desired to prepay the customs duty this can be done by sending the printed matter in bulk by express to a customs broker or the agent of the express company at a frontier port in Canada, by whom the duty can be paid and postage stamps affixed thereto and the matter then mailed in Canada to the various addresses designated by the exporter. The printed matter may be wrapped separately and addressed in the exporter's office, so as to be distributed by the customs broker in Canada without delay after paying duty thereon.

COSTA RICA.

DUTY ON AUTOMOBILES, MOTOR CYCLES, AND BICYCLES.

Consul John C. Caldwell reports from San Jose under date of June 12 that, according to a decree promulgated by the Costa Rican Government on that day, the duty on automobiles, motor cycles, and bicycles with motors has been fixed at 0.05 colon (colon, $0.4651) per kilogram (kilogram, 2.2 pounds). The duty on velocipedes has been reduced from 1.305 to 0.33 colon per kilo. To the above duty should be added wharfage dues of 0.015 colon per k and a surtax of 2 per cent of the duty proper for the con

COLOMBIA.

CONSULAR INVOICES AND MANIFESTS.

Consul Isaac A. Manning, of Cartagena, reports, under date of May 20, on the question of necessary consular papers to accompany shipments of merchandise into Colombia. The consul calls attention to the fact that this requirement is frequently disregarded by American manufacturers and shippers, resulting in great loss of time and annoyance.

The general rules covering these documents are as follows:

Article 8 of the decree of January 27, 1905, says:

For the purpose of consular certification, invoices will be divided into four classes, to wit: First, those invoices that only cover articles of iron, steel, copper, zinc, or wood for machinery for industrial enterprises, such as railways, steamboats, electric lighting, telegraphs, telephones, printing, glass or crockery factories, cotton factories, when these may have been declared of public utility; second, invoices that do not exceed $200 in value; third, invoices exceeding $200 in value, but not over $500; fourth, invoices covering valuation exceeding $500.

Article 9 says:

For consular certification the charges will be in gold, as follows: Class 1, $9; class 2, $18; class 3, $24; class 4, $30, for each $1,000 of invoiced value or fraction thereof.

Article 10 says:

The fee for certification of manifest in Colombian consulates will be $15 for the first 100 packages, and $3 for each additional 100 packages or fraction thereof.

APPOINTMENT OF A TARIFF COMMISSION.

Consul Manning, of Cartagena, also reports, under date of May 12, the appointment of a permanent tariff commission with a view to making a thorough study of the effect of the import duties on the commerce of the country. It is intended to revise the tariff in a thorough manner and give it greater stability than has characterized it in the past. It is said that special attention will be given to import duties on corn and rice with a view to their possible reduction.

CUBA.

CHANGE IN TONNAGE DUES.

Minister Edwin V. Morgan transmits from Habana a copy of the Provisional Governor's decree amending article 176 of the customs regulations, which relates to tonnage dues levied at Cuban ports. The decree, which became effective July 1, 1908, reads as follows:

At all ports or places in Cuba there shall be levied the following tonnage dues:

(a) On entry of a foreign vessel from a port or place not in Cuba, per net ton, 10 cents, not to exceed in the aggregate $1 per net ton in any one year, to count from the date of the first payment.

(b) On entry of a Cuban vessel from another port or place not in Cuba, 5 cents per net ton, not to exceed in the aggregate 50 cents net tonnage in one year, to count from the date of the first payment.

(c) On entry of a vessel from a port or place in Cuba engaged at the time of entry in the coastwise traffic in Cuba, per net ton, 1 cent, not to exceed in the aggregate 20 cents net tonnage in one year, to count from the date of the first payment.

(d) The following shall be exempted from tonnage dues: (1) Vessels which belong to any neutral foreign government not engaged in trade; (2) yachts

which belong to an organized yacht club of any neutral foreign nation; (3) vessels entering Cuban ports in distress.

(e) The tonnage of a vessel shall be the net or register tonnage stated in her national certificate of registry; in case of doubt, however, said tonnage may be rectified by the customs officials.

INCREASE OF DUTY ON ROASTED COFFEE.

The following is reproduced from the Gaceta Oficial announcing decree No. 563, dated at Habana, May 27, 1908:

Whereas the coffee growers of the island of Cuba have presented a petition calling attention to the fact that the existing tariffs on coffee are fixed by weight and the same rate is imposed on roasted coffee as on the raw product: that by reason of its lighter weight imported roasted coffee has an unequal and unfair advantage in Cuban markets over the raw coffee produced in the island, and the petitioners insist that the import duties on roasted and raw coffees be equalized by increasing the rate on the lighter coffee sufficiently to make up for said difference in weight and thereby place the coffee produced in Cuba upon a footing of equality with the foreign products in the domestic markets;

Whereas the petition is supported by the Agrarian League, the chambers of commerce of Habana, Santiago de Cuba, and other cities, and by numerous other organizations throughout the island; and

Whereas the department of agriculture, industry and commerce, and the treasury department, both report favorably upon said petition; paragraph 286 of the existing customs tariff be, and is hereby, amended to read as follows:

286. Coffee, chicory roots, and chicory:

(a) In grain raw T (Disp. III, rule 5) 100 kegs..... $18.00

(b) Roasted, in grain or ground T (Disp. III, rule 5) 100 kegs..... 22.50

The old rate was $18 per 100 kilos on both roasted and raw coffee. The rates given in the above decree should be increased by the surtax of 30 per cent of the duty, for coffee imported from foreign countries, thus making the rates $23.40 and $29.25, respectively, and the total decreased by 20 per cent in the case of imports from the United States, making the final rate on the two kinds of coffee imported from the United States (including Porto Rico) $18.72 and $23.40, respectively.

DENMARK.

NEW CUSTOMS TARIFF ADOPTED.

Minister Maurice F. Egan transmits from Copenhagen a copy of the new Danish customs tariff recently enacted by the Danish Rigsdag and signed by the King May 5. The new tariff is to be put into effect January 1, 1909, with the exception of the duties on alcoholic beverages and tobacco, which went into effect May 6.

The minister states that important reductions have been made in many instances, and that duties have been increased on tobacco, liquors, silks, and fruits. Petroleum and rice have been put on the free list.

A comparison of the new tariff with the old shows that the tariff has been reduced on the whole, resulting in a decrease of duties of about 15 to 20 per cent. The duties on raw materials and articles required in manufactures have been considerably reduced and in a number of cases abolished. The duty on coal has been reduced from 24 cents to 8 cents per ton and is to be entirely removed in four years. The principal articles on which a reduction of duties has been made are: Metals and manufactures thereof, textiles (except

silk and artificial silk), lumber, paper, paints and dyes, chemicals, machinery, etc.

THE MOST IMPORTANT ARTICLES AFFECTED.

Consul Frank R. Mowrer, of Copenhagen, transmits the following table of duties on the most important articles exported from the United States to Denmark, showing a comparison of the rates of duty in the old and new tariffs:

[1 krone=26.8 cents United States currency.]

Articles.	Unit of quantity.	Old rates.	New rates.
		Krone.	*Krone.*
Boots and shoes	Kilo	1.33	0.60 plus 7½ per cent ad. val.
Canned goods	do	.29	.40
Canvas and tarpaulin of flax or hemp	do	.25	.19
Coal	100 kilos	.09	.08
Coke and cinders	do	.15	.05
Fencing wire	Kilo	.125	.05
Fruit, dried	do	.035	.04
Fruit, preserved	do	.29	.24
Apples and pears	8.8 imp. bus	1.00	1.00 per kilo.
Oranges	Kilo	.06	.065
Grapes	do	.29	.25
Pineapples, peaches, apricots	do	.01	.35
Railroad rails, and cast-iron pipes	do	.01	Free.
Iron hoops and bars with drilled or punched holes	do	.01	.015
Cast-iron pipes, fittings, etc	do	.01	.03
Raw iron plates without holes	do	.01	Free.
Raw iron plates with holes	do	.01	.015
Raw iron wire	do	.04	Free.
Other wires of at least 5 m. m. thickness	do	.04	.02
Iron beds	do	.125	.04
Leather, blackened, glazed, burned, gilded	do	.50	.60
Plain deals and boards	Danish cubic foot	.25	3.50 per cubic meter.
Fine foreign woods	do	.25	4.50 per cubic meter.
Machines, electric	Kilo	.125	7½ per cent ad val.
Machines, other	do	.125	5 per cent ad val.
Nails	do	.01	.08
Oils, rape and linseed	do	.08	.07
Other oils	do	.08	.05
Petroleum	do	.04	Free.
Razors with handles of bone, horn, caoutchouc, celluoid, base metal, ebony, or colored wood	do	.125	.50
Razors with handles of precious metal, ivory, mother-of-pearl, tortoise-shell, etc	do	.67	.70
Rubber shoes and tires	do	.67	.50
Sugar, pulverized in plates and tops which polarizes above 98 per cent	do	.25	.10
Pulverized sugar which polarizes above 86, but not above 98 per cent	do	.125	.065
Pulverized sugar which polarizes above 86, but not above 98 per cent, for refining	do	.125	.059
Other pulverized sugar, which polarizes 86 per cent and less, white sirup	do	.08	.04
Tobacco leaves and stems	do	.29	.64
Cigars	do	1.67	2.20
Cigarettes	do	.42	.64 plus 30 per cent ad val.
Wall paper of a weight not exceeding 80 grams per square meter equal to 0.0882 pound per 10.76 square feet	do	.33	.20
Wall paper of a weight not exceeding 80 grams per square meter equal to 0.0882 pound per 10.76 square feet, not ground painted	do	.33	.24
Other wall papers	do	.33	.30
Watches, gold	Each	1.00	4.00 per kilo.
Other watches	do	1.00	2.00 per kilo.

FRANCO-CANADIAN TREATY.

RATIFICATION BY FRENCH SENATE DELAYED.

With reference to the Franco-Canadian treaty, an account of *which by Consul*-General F. H. Mason was published in the Monthly *Consular and Trade* Reports for July, the State Department is in

receipt of a cable dispatch from Ambassador White to the effect that the treaty has not been ratified as yet by the French Senate. The treaty has been ratified by both Houses of the Canadian Parliament and by French Chamber of Deputies.

ITALY.

REGULATIONS GOVERNING THE MANUFACTURE AND SALE OF EDIBLE OILS.

The Gazzetta Ufficiale of April 16, 1908, contains the following law promulgated by the King of Italy for the protection of the olive-oil industry as well as in the interests of the consumer:

ARTICLE 1. It is prohibited to place on the market under the name of olive oil any product which differs entirely or partly from oil called by that name.

ART. 2. Whoever manufactures, ships, keeps in stock, sells, or puts on sale edible oils in merchantable quantities different from olive oil or resulting from the mixture of olive oil with seed oil or with that derived from other oleaginous substances is required:

(*a*) To report it to the mayor of the municipality within a month from the publication of this law or the opening of the factory, warehouse, or business.

(*b*) To indicate by conspicuous characters displayed outside the place of manufacture, warehouse, or sale, as well as on the receptacles, the character of the oil, and whether it is genuine olive oil or mixed with seed oils.

In the absence of such indication, whenever mixed oils or those derived from oleaginous substances or seeds may be found on premises containing alimentary substances, or in cellars or adjoining warehouses, the presumption will be that the oil was intended for human consumption.

ART. 3. Manufacturers of and dealers in edible oils are obliged to furnish, in return for payment, samples of their wares upon request of the municipal authorities or of officers of the ministry of agriculture, industry and commerce.

ART. 4. Whenever it is desired to have proof of the genuineness of olive oil intended for export such proof is furnished, except in the cases otherwise provided for by international treaties, by means of a certificate of the analysis of the sample taken, in the manner to be prescribed in the regulations.

ART. 5. All violations of the provisions of article 1 shall be punishable by a fine of not less than 500 lire, and all violations of the provisions contained in articles 2 and 4 shall be subject to a penalty of not less than 200 lire.

In case of a repetition of the offense the minimum fine is to be doubled, and imprisonment for terms up to three months and one month, respectively, are to be added, coupled with a suspension of business for a period of from ten days to six months.

The application of the penalties mentioned above is not to preclude the application of higher penalties to which the offenders may be later subjected as a result of the provisions of the penal code or other special laws.

ART. 6. The sentence shall be published, at the expense of the offenders, in the local newspapers and affixed to the billboards of the local chamber of commerce and the agricultural boards of the province in which the offenders reside.

ART. 7. Refusal to furnish samples in accordance with the provisions of article 3 is to be punished by a fine of 100 lire, and the operation of taking the samples shall be performed by the authorities.

MEXICO.

FREE ADMISSION OF MINING MACHINERY AND OTHER GOODS.

The Mexican Diario Oficial contains a decree to the effect that during the year commencing July 1, 1908, and ending June 30, 1909, all merchandise mentioned in the decree of May 30, 1905, as well as any that the Executive may designate in addition, will be admitted free of duty, if imported through the custom-houses established in the territory of Quintana Roo for consumption in that territory. Another decree, effective for the same period, permits the entrance free of duty of all machinery to be used in mines and smelting plants.

[A list of merchandise alluded to is contained in the Customs Tariff of Mexico, which can be obtained on application to the Bureau of Manufactures.]

VENEZUELA.

EXPORT DUTY ON SILICATES AND CARBONATES OF MAGNESIUM.

Chargé d'Affaires Jacob Sleeper transmits from Caracas translation of a Venezuelan decree dated May 11, 1908, by which the export duty on natural silicates and carbonates of magnesium, known as dolomite, meerschaum, talc, soapstone, serpentine, magnesite, etc., is fixed at 1 bolivar ($0.193) per ton of 1,000 kilos (2,204 pounds). Those having contracts with the Federal Executive for the exploitation of one or more of the aforesaid products will pay only the export duty stipulated in the contract.

FINANCES.

BANKS AND BANKING.

CHINA.

RECENT DECREES AND REGULATIONS FOR ESTABLISHMENT OF BANKS.

Chargé d'Affaires Henry P. Fletcher, of the American legation at Peking, transmits the following report, prepared by Student Interpreter Willys R. Peck, on Government banks in China:

Two Government banks have been established, the Imperial Bank and the Bank of Communications, controlled, respectively, by the board of finance and the board of posts and communications. The board of finance has drawn up and gained imperial sanction for a set of general laws relating to banking, and two sets of regulations for the establishment of special forms of banks, viz, industrial and savings banks. It is to be observed that the effect of this recent legislation is to place the whole banking business of the country under the supervision of the board of finance.

THE IMPERIAL BANK.

The Imperial Bank, which has hitherto been called the Bank of the Board of Revenue, is a stock concern, capitalized at 10,000,000 taels (haikwan tael=68 cents), of which the Government will subscribe one-half. Its existence is limited to thirty years, after which period it may be continued if found profitable. While it will transact all ordinary banking business, the main function of the Imperial Bank will be, as far as the board of finance may deem advisable, to serve as the depository for all Government funds, and the medium through which national financial deals may be consummated. Its other duties will be to act as the instrument of the Government in preserving the monetary equilibrium of the Empire by means of loans here and there, as circumstances require, and to control the issuance of paper money. At some future date it will have exclusive prerogatives in this particular, but in all of its activities it is to be under the direct control of the board of finance, the power of the shareholders being practically nominal. As its business expands agencies will be established throughout the country, which will also transact ordinary banking business, while serving as the medium through which the bank may affect monetary conditions in the provinces.

BANKING LAWS—INDUSTRIAL BANKS.

The general banking laws are designed to safeguard business conditions by preventing banks from becoming insolvent. To this end strict Government supervision is made compulsory for all banks, especially as regards the issue of notes. This latter provision will, of course, be unnecessary when the Imperial Bank is vested with the exclusive privilege of issuing them. To compensate for the restrictions

imposed on banks the Government asserts its willingness to aid with a loan from the Imperial Bank any banking concern involved in special difficulties, if said difficulties can be shown to be of an unavoidable and temporary character. The scope of these laws is sweeping, and if they are enforced all the banking business of the Empire will be closely watched by the board of finance.

The industrial banks, provided for in a special series of regulations, may be of private or Government origin and are designed especially as an aid to the lower classes. They are to loan money in small amounts on easy terms as regards security. The rate of interest is not fixed. Local officials will, with public funds, aid each bank for the first years of its existence. Ordinary banking business is permitted if confined to a scale accessible to the lower classes.

The need for special laws regulating the conduct of savings banks arises from the fact that ordinary Chinese banks do not engage in this department of banking, as we understand it. The security of deposits in these banks is safeguarded by the compulsory retirement each year of at least a quarter of all deposits and their retention in an available form as a reserve fund. Registration with the board of finance of all banks doing this kind of business, and constant supervision of their affairs by the same board, are henceforth to be compulsory throughout the Empire.

BANK OF COMMUNICATIONS.

Just as the Imperial Bank is the instrument of the board of finance so the Bank of Communications is the organ of the board of posts and communications in its control of railways, telegraph lines, and postal facilities. In addition to transacting the ordinary business of a bank, its special function will be to act as place of deposit for the funds of public utilities under the control of the board of posts and communications. It will also care for all funds accumulated for the redemption of the Peking-Hankow Railway, and will have control of all bonds issued by the Government to provide for the construction of railways. It will establish agencies or connections wherever conditions demand, but these and the central office will in every essential particular be under the direct control of the board of posts and communications.

As will be observed the changes inaugurated in this new legislation are far-reaching. But it is reasonable to expect large developments along these lines. Li Ching-ch'u, a nephew of Li Hung-chang, and a man of experience in banking, is president of the Bank of Communications. This bank is temporarily located in the southern city; the equipment, as regards both accommodations and staff being on a generous scale. A permanent building will be erected in the Tartar city, opposite the building of the Imperial Bank. The latter, since it is a continuation of the Bank of the Board of Revenue, is an energetic concern. It has recently dispatched Mr. Ch'en Chin-t'ao, an official educated in the United States, to Europe and the United States to buy machinery and engage a superintendent in preparation for the printing of paper money. [Regulations of the Imperial Bank, laws relating to banking, savings bank laws, regulations for industrial banks, and regulations for the Bank of Communications, transmitted with the foregoing report, are on file in the Bureau of *Manufactures.*]

BRAZIL.

INCREASED LOANS INDICATE CONSIDERABLE BUSINESS CHANGES.

Consul-General George E. Anderson, of Rio de Janeiro, advises that the annual reports of the foreign banks doing business in Brazil and in the countries of the eastern coast of South America generally show a very large increase in loans, to which he adds:

This includes the departments of banking generally known as banking proper, as distinct from the large portion of the earnings of these institutions due to international exchange business. This change, which is commented upon generally in the annual meetings of the corporations concerned, is said by those in a position to know to indicate a change of vast importance to the business world in South America and to all countries dealing with the countries served by these banks. The change consists in the decreasing use of long-term credits by Brazilian and other South American buyers and more discounting of commercial paper by banks so as to enable Brazilian purchasers to pay cash or buy on short-term credits. Inasmuch as one of the chief stumbling blocks in the extension of American export trade in this portion of the world has been an indisposition on the part of American exporters to grant credits, due to the fact that American manufacturers have preferred to do business upon a cash basis with a lower margin of profit than upon a credit basis with a larger, this change is of vast importance to American export interests.

DISCOUNT STATISTICS—LENGTH OF CREDIT.

The extent of this change in the past year is illustrated in the statements of the five foreign banks in Rio de Janeiro at the end of February, 1908, as compared with February, 1907. There was an increase in the amount of bills discounted of 7,035 contos of reis, or about $2,110,500; in bills receivable, of 8,756 contos, or about $2,626,800; in bills and securities pledged, of 9,419 contos, or about $2,825,700.

American exporters are not to infer that the time-honored custom of Brazil and South American countries generally of buying goods on from three to six and even nine months' credit has been discontinued. In some lines of business the custom is just as strong as ever, and it is likely to continue indefinitely.

The present general method followed by most Brazilian houses is to buy on, say, six months' time, with interest at, say, 6 per cent from date of invoice. The jobber who thus purchases sells to the retailer on, say, three months' credit. The retailer sells for cash or arranges so that he can pay his bills at the end of the three months' credit. Thus the jobber and retailer do business with less capital than if their transactions were for cash. So long as interest charges in banks are higher than the rate of interest charged by the manufacturer or exporter on the original sale, this lack of capital has best been met by this credit system.

BANKS MORE LARGELY USED—CONFORMING TO CUSTOM.

When banks loan money for the same rate or less than the manufacturers or exporters, it pays to discount bills and pay cash or take short-term credits. What change there has been in buying methods indicated in the bank reports referred to is likely to have been more

in the direction of using the banks in place of the manufacturers or exporters than in the way of any material change in financial conditions generally, although some have occurred.

In the meanwhile the advisability of American exporters of extending credits on account of custom, the sharp competition for the Brazilian trade is as urgent as ever and in the majority of cases American houses need have no material difficulty in securing trustworthy information upon which to base them.

SPANISH BUDGET.

SMALL SURPLUS BUT NO DEFICIT FEARED—NO NEW LOANS ANNOUNCED.

In transmitting the following information concerning the draft of the Spanish budget for 1909, as read in the Cortes, American Minister William Miller Collier, of Madrid, reports that it contains no radical changes and has had no effect upon the price of state securities:

While it is estimated that the operation of this year's budget will yield a surplus of only 20,000,000 pesetas ($3,360,000) instead of the 70,000,000 pesetas ($11,760,000) yielded in 1907, and that the proposed budget for 1909 will show a surplus of only 16,000,000 pesetas ($2,688,000), yet, on the other hand, no deficit is feared, and the fact that no new loan is announced has been well received in financial circles.

The draft of the budget for 1909 sets forth the expenditure and revenue as follows: Expenses, 1,043,720,746 pesetas; receipts, 1,059,919,366 pesetas; estimated surplus, 16,198,620 pesetas. Reduced to United States currency at the latest estimated value of the peseta (16.8 cents) the amounts would be: Expenses, $175,345,085; receipts, $178,066,453; estimated surplus, $2,721,368.

When the foregoing estimated revenue is compared with the estimate for 1908, there appear the following differences: Direct taxes, 4,500,000 pesetas increase; indirect taxes, 200,000 pesetas increase; monopolies, 11,150,000 pesetas increase; tax on property, 500,000 pesetas decrease; treasury resources, 3,888,889 increase; total increased income, 19,738,889 pesetas. The points in the proposed budget which are likely to give rise to the most discussion are the following:

ANNUITIES FOR PUBLIC IMPROVEMENTS.

An interesting innovation appears under the heading of public debt. In order to furnish funds for the new post-office and telegraph extension (10,000,000 pesetas), for the improvement of the national schools (7,000,000 pesetas), and for the building and subsidizing of provincial railways (26,000,000 pesetas), it is provided that expenditures to the total amount of 43,000,000 pesetas ($7,224,000) may be made for these purposes in the year 1909, and that the contractors undertaking the said works shall receive payment in the form of annuities amounting in 1909 to 2,500,000 pesetas ($420,000), which sum is sufficient to provide interest and sinking fund on the 43,000,000 pesetas. By way of capitalizing these annuities, the contractors, or nks representing them, shall have the right to issue securities which ·ill practically be equivalent to state securities, since their interest l sinking fund will be guaranteed by the State.

This installment method of financing much-needed improvements *been adopted* in order to avoid either a large increase in taxation

or an addition to the national debt. The 2,500,000 pesetas needed for these annuities in the year 1909 account for the increase in this item of public debt.

INCREASES IN REVENUE.

Under direct taxes the estimated increase is obtained by extending the tax on "utilities" to foreign banking and commercial corporations and to the legal and other professions. This, it is calculated, will produce 3,500,000 pesetas ($588,000). Another million is to be derived from the increase in taxes on transfers and conveyances.

Under monopolies the estimated increases are 1,500,000 pesetas ($252,000) in the stamp tax, 3,000,000 pesetas ($504,000) in the tax on wax matches, and 6,500,000 pesetas ($1,092,000) in the tobacco revenue. This last will be obtained by raising the price of certain grades of tobacco and readjusting the contract between the State and the company which holds the tobacco monopoly.

Under treasury resources the estimated increase is based upon the fact that the sums received for redemption from military and naval service in 1907 and in the first quarter of 1908 have shown a large increase.

DIRECT TAX ON FOREIGN CORPORATIONS.

The extension of the tax on "utilities" is the only new tax by which foreigners are directly affected. For the branches and agencies of foreign commercial and manufacturing companies doing business in Madrid or Barcelona there is fixed a graduated scale of taxation, based on the amount of their capital stock, as follows:

Capital.	Tax.	Capital.	Tax.
	Pesetas.		*Pesetas.*
Up to 1,000,000 pesetas	5,000	50,000,000 to 75,000,000 pesetas	60,000
1,000,000 to 5,000,000 pesetas	10,000	75,000,000 to 100,000,000 pesetas	80,000
5,000,000 to 25,000,000 pesetas	20,000	100,000,000 pesetas and over	100,000
25,000,000 to 50,000,000 pesetas	40,000		

In the capitals of provinces, other than Madrid and Barcelona, the scale is reduced to one-half, and in other towns to one-quarter of the foregoing figures.

ECONOMIC CONDITIONS IN JAPAN.

FINANCIAL RESOURCES AND TAXATION IN THE ISLAND KINGDOM.

Consul-General Henry B. Miller sends from Yokohama the following abstract from the Japan Chronicle concerning the financial situation there:

The Japanese Financial Commissioner in London recently estimated that Japanese paid 35 per cent in taxation, direct and indirect. The Hochi estimates it at a much larger figure. Although no precise figures regarding the national wealth and the income of the people of this country are available, yet the result of investigations made by the Bank of Japan and other authorities shows the national wealth to amount to about $10,000,000,000 gold, and the total income of the people to between $1,500,000,000 and $2,000,000,000. This estimate appears to be fairly correct. Taking two-thirds of this income as the cost of living, a surplus of about $650,000,000 will be left. The amount collected in taxes reaches to between $300,000,000 and $400,000,000 for national taxes and to between $75,000,000 and $100,000,000 for local taxes.

The prevailing depression in trade, which has resulted in a lowering of the price of merchandise, must have reduced the income of the people by 10 or

20 per cent. Taking the decline in income at 10 per cent, the total income of $2,000,000,000 will be reduced to $1,800,000,000, but the cost of living can not be reduced in proportion, so that the surplus available will decline to $500,000,000.

The estimated annual revenue of the tobacco monopoly now amounts to $36,500,000 and the expenditure to $16,000,000, while the yield of the salt monopoly is $11,500,000 and the expenditure $7,500,000, bringing up the total profit on these two monopolies to about $25,000,000.

WORLD'S NEGOTIABLE SECURITIES.

ESTIMATES OF THEIR MARKET VALUE AND SHARE PER CAPITA.

M. Neymarck, of France, has made detailed estimates of the world's negotiable securities. For 12 European countries his aggregate is 75,000 million dollars; for the United States, 34,514 million dollars, and for Japan, 1,563 million dollars. He estimates the total population of these countries at 565½ millions, and therefore assigns an average of $196 per person of this paper wealth. His statistics, which follow, are expressed in millions:

Countries.	Total values.	Population.	Value per head.
Great Britain	$26,400	42.8	$617
France	19,500	38.9	501
Germany	10,000	56.4	177
Russia	5,400	129.0	42
Austria-Hungary	4,400	45.4	97
Netherlands	2,200	5.4	405
Italy	2,300	33.2	69
Belgium	1,400	6.9	200
Spain	1,300	18.6	69
Switzerland	1,100	3.3	331
Denmark	600	2.6	226
Sweden and other European	400	51.5	7½
United States	34,514	83.2	414
Japan	1,563	47.9	29
Grand total	111,077	565.1	196

SAXON INCOMES.

STATISTICS SHOWING THEIR SOURCE IN FOUR LARGE CITIES.

Consul Thomas H. Norton, of Chemnitz, furnishes the following statement, showing the sources of income of the inhabitants of the four cities in the Kingdom of Saxony having a population each of over 100,000 for 1907:

Source of income.	Leipzig.	Dresden.	Chemnitz.	Plauen.
Landed property	$13,403,962	$13,501,585	$4,528,237	$2,136,577
Bonds, stocks, etc	14,466,659	19,277,149	4,062,861	1,682,947
Salaries and wages	54,673,388	54,321,001	23,576,760	9,517,597
Commerce and industry	38,436,919	28,935,941	14,439,203	7,993,428
Total	120,980,928	116,035,676	46,607,061	21,330,549
Deduct interest on mortgages and other forms of debt	11,218,775	14,117,984	3,311,358	1,835,186
Net income	109,762,153	101,917,692	43,295,703	19,495,363
Per capita income	217	202	177	185

TRADE EXTENSION.

SUGGESTIONS TO EXPORTERS.

BRAZIL.

PACKING, SHIPPING INSTRUCTIONS, AND CUSTOMS REGULATIONS.

Consul John W. O'Hara, of Santos, furnishes the following information relative to the proper preparation and invoicing of goods for Brazil, especially for Santos:

A great many complaints have come to this consulate about the manner in which merchandise purchased from American merchants, manufacturers, and exporters is received at this port. The greatest trouble, inconvenience, and sometimes expense, is occasioned by not having the merchandise properly manifested and invoiced. One hears but little complaint on account of faulty packing—in this respect a very great improvement is noticeable within the past two years. The only complaint now heard with respect to the packing of goods is that boxes and cases occasionally arrive without being securely banded or strapped with hoop iron, and failing in this respect, cases containing small articles are sometimes opened and some of the contents abstracted. However, in the main the packing is good.

The particular matter to which attention is called at this time is the failure to follow shipping instructions and to conform to the rules and regulations of the customs authorities of this country. A detailed statement of the steps necessary to be followed in order to clear merchandise from the custom-house of a Brazilian port with the least possible delay, trouble, and expense herewith follows:

INVOICING.

For all merchandise of the value of more than 200 milreis (milreis=30 cents) the shipper should secure a Brazilian consular invoice. This invoice should contain the proper marks, the number of articles or cases, and the gross and net weight of each expressed in kilos (kilo=2.2046 pounds); and should the contents be contained in cans, bottles, or other containers, the net or actual weight of the merchandise should be given, each in its proper column, and the containers should be described, stating materials. In order to facilitate clearing, great care should be taken in description where several articles are included in one case or package.

Each article or class of articles contained should be described, or at least named, and the number given. Ambiguous declarations made in the consular invoice and in the manifest always cause delay, and frequently heavy fines are imposed upon importers because an error has been made in the declaration as to the number or quality of the articles in either manifest or invoice. The wording of the bill of lading should be exactly the same as that of the consular invoice, as the manifest of cargo is made from the former, and any discrepancy

between the two documents necessitates the opening and inspection in the presence of a special committee of each article and each case, for the expense of which the consignee must pay, together with a fine, if the authorities feel justified in imposing one.

In cases where it is impractical to give a definite description of the articles of merchandise contained in a particular case, the contents should be marked as "Miscellaneous" in the consular invoice and bill of lading, and should never take the name of the leading article only, as very often happens, and which always ends in giving trouble to the consignee.

NOTIFYING CONSIGNEES—CLEARING AMERICAN GOODS.

The shipper should always notify the consignee in due time of the date of shipment and of the name of the steamer carrying the merchandise, sending at the same time the necessary documents so that the consignee may be prepared to clear the merchandise upon its arrival, thus saving heavy storage charges. This is very important in shipping through this port and Sao Paulo or to other points in the interior. A very small percentage of the importations into this State are for the port of Santos, yet all enter here.

I have talked with several dealers about handling American merchandise, and have been informed by some of them that they have tried "sample orders," and that while they were better pleased in most instances with these than with similar articles made in Europe, they have had so much trouble and expense in clearing the goods that they have been compelled to go back to their European houses.

In many instances they buy American goods in Europe, preferring to pay double freight rates and commissions and avoid the trouble and expense occasioned in dispatching here. These complaints are by no means universal, as many experienced shippers are sending goods to this market and complying strictly with all the shipping requirements, and their consignees are experiencing no trouble. It is the new shippers about which the complaints are made and to whom these instructions are particularly directed. There is no reason why the American manufacturer and exporter should not give the same care and attention to necessary details that is given by his European rivals.

This is a great market and American manufactured articles are very popular and, in most instances, preferred to those manufactured in other countries, and it is only necessary for our people to give more attention to detailed instructions to greatly increase the sale of American merchandise.

SPAIN.

AMERICAN VERSUS EUROPEAN TRADE SYSTEMS IN THE PENINSULA.

The following information relative to the manner in which American trade in Spain is handicapped is furnished by Consul Charles M. Caughy, of Malaga:

Recently an opportunity presented itself to talk with a continental commercial traveler, who for many years has made this portion of Spain his field of exploitation, selling goods for a firm in Barcelona which represents foreign houses. His samples and photographs cov-

ered a very large variety of articles from every European country, but nothing from the United States except a cheap quality of dress shield, handled, however, by a German house.

Upon inquiring why there were not other articles from the United States he replied that his firm had made numerous attempts to secure American trade connections, but that the iron-bound rule of cash against documents was prohibitive. He added that manufacturers of a certain European country readily appreciated this fact and were constantly imitating American goods and selling them at much lower figures than the American catalogues quoted. He showed the photograph of a portable oil cooking stove which could be sold here at a profit for $4, while the American stove, of which it is an exact copy, is listed at $6. He agreed with me that the only solution of the difficulty would be for several manufacturers, whose wares do not conflict, to establish an agency in each of the larger cities, consign the goods and take bonds from the agents, and every six months make them settle for the amount sold. There are plenty of reputable representatives abroad to whom such a proposition would be acceptable, and the terms would enable them to make profitable sales on credit.

CUBA.

COMMISSION AGENTS WHO WILL DISPLAY GOODS ARE ADVISED.

Consul Max J. Baehr, writing from Cienfuegos, says that the increase of American trade with Cuba since the reciprocity treaty between the two countries went into effect has been gratifying and that it must be pleasing to the American manufacturer and exporter. He continues:

However, their interest could be still further enhanced. I would repeat the necessity of being properly represented in each Cuban province by reliable local agents selected from the resident commission agents of the respective localities, who by reason of a thorough local knowledge of the trade and customs know the needs of the people intimately, and thereby give better results than ambulant salesmen, devoid of this knowledge and of the language of the country; even periodical visits from agents or representatives located in Habana are insufficient to keep in touch with the varying market conditions or changes of fashion, all of which should be promptly reported to the home office, so that it may properly and intelligently meet competition.

LOCAL EXHIBITION ROOMS.

To this end I have urged one of our most active, energetic, and successful young commission merchants [name on record at Bureau of Manufactures] to make an effort in this direction, and I submit his letter setting forth plainly the conditions under which he offers opportunity to American manufacturers desirous of extending their trade to this region. As he speaks English fluently, correspondence with him can be conducted in this language. The letter reads:

In view of the propitious prospects that are offered here for the introduction of merchandise of American origin, I am desirous of making connections with reliable and reputable concerns in the United States for handling and exhibiting their goods. I have recently engaged a large and spacious store situated in the

center of the business section and most appropriate for the purpose of exhibiting all kinds of manufactured goods. My idea is to have this place as a showroom for merchandise of American manufacture, and solicit your cooperation in inviting the attention of all manufacturers who would be disposed to consider the following proposition, viz:

That they send me one or more of each of the different kinds of goods they handle, which I would keep as samples on exhibit and from which I would take orders from the wholesale dealers, who would be no other than reliable people. They—the manufacturers—would ship the goods ordered direct to the purchaser with the corresponding documents, and the latter remit draft to cover on receipt of merchandise, and I would expect from the shippers a commission on all sales effected. Should I find it necessary to dispose at any time of the samples in my possession, I would immediately remit and order others in their stead on the same conditions.

I would be responsible to the manufacturer for such samples or goods that would be sent to me, and the same may be charged up to me or kept for account, as would be preferred.

The foregoing proposition is exceedingly advantageous to American manufacturers for the exhibition and introduction of their goods in this market without entailing any cost to them for storeroom or any other expense that would be incurred otherwise.

The following are some of the lines of goods that I think would be salable in this market, viz:

Contractor's carts and farm wagons.
Vehicles of all descriptions.
Office and household furniture, including wicker.
Harnesses.
Iron safes.
Automobiles.
Typewriters.
Phonographs.
Bicycles.
Plated and nickel wares.
Cash registers.
Fire extinguishers.
Wire and other fencing.
Refrigerators.
Sanitary equipment for houses.
Novelties of all kinds.

PACKING REQUIREMENTS.

BRITISH INDIA.

HOW TO SAFEGUARD GOODS DESTINED FOR THE FAR EAST.

In transmitting the following interview with an American commercial traveler who has devoted thirteen years to the successful exploitation of trade in the Orient, principally in India, Consul-General William H. Michael, of Calcutta, writes:

His success in selling American manufactured goods, as well as his general demeanor, so impressed me that I determined to get his views on commercial points of interest to American manufacturers and exporters, especially those whose interests lie in the trade of the Orient and Far East. The business man states:

After all that has been said and printed on the subject of packing goods for foreign shipment it seems superfluous to add anything. Yet it is so vital a point and of so much consequence to success in placing American goods in a foreign market, and to show some of the difficulties importers in India have to put up with, and really the losses sustained by reason of bad packing, I venture to refer to it.

PACKING GOODS FOR FOREIGN SHIPMENT.

I will call your attention to a shipment of inkstands of fairly high price from a maker in Ohio for one of our large Calcutta stationers. These inkstands were single and double assorted in the order, with wooden case, each in a pasteboard box which was the exact size of the wooden base, leaving considerable room for the glass wells above. These wells were wrapped in thin tis-

sue, while the glass tops were also wrapped in tissue, with a small quantity of excelsior between, leaving considerable room for the four pieces of glass to play about in the box. When the goods arrived fully 25 per cent was broken, all because of not using 1 cent's worth more of excelsior to hold the glassware tight in the box. When the maker was asked to replace the breakage he stated that he was not responsible for breakage. Can you imagine that he would be able to get another order from his customer, who was otherwise pleased with the goods, but which cost him 25 to 30 per cent more than he had bargained for?

Manufacturers of patent medicines do a large business in foreign countries, especially India, and many of them have taken heed of the advice given and the recommendations so earnestly made by consuls and by a large New York export house, which is vitally interested in this line of business, and whose travelers cover not only India, but all Asiatic countries, but still many refuse to wrap their bottles in corrugated paper, top and sides, packing them in cases lined with the same material. Consequently the bottles are broken, and those which are not destroyed in this way are rendered unsalable by the liquid from the broken bottles soiling the few remaining ones. Many of the makers who are supplying their goods packed in this way refuse to make any allowance to the purchaser or even send him fresh labels to put the goods in salable condition. What an unsatisfactory situation for the exporter to be in, and you can imagine how difficult it would be for him to get repeat orders under such conditions.

Now, as to the cases which are used in which to pack goods, I have seen some cases, containing heavy goods, only three-eighths inch thick. Sometimes these cases are second-hand and in a rotten condition, without even a wire strap around them. Cases coming all this distance and with the rough handling at transshipment ports can not arrive safely unless they are of at least three-fourths inch wood, and in most cases 1-inch wood is required.

PILFERING EN ROUTE.

For the protection of goods both in transshipment sheds, on board steamers, and at the landing jetties it is most important that all cases, no matter what the contents are, should be strapped and sealed. This operation may take a little time and cost a small amouut of money, but by so doing the packer will find that he will have no claims for shortage and the buyer will receive what he has paid for, while otherwise he may find his cases containing half the goods he ordered and half coal and rubbish, which the man who has stolen his goods has supplied in their place. The maker can always protect himself by stamping on his invoice "Cases strapped and sealed; see that the seal is unbroken before taking delivery; no allowance made for pilferage." If this system is followed, time, money, and trouble will be reduced to a mimimum and business will increase. The lead seals are used in connection with a wire which is put around the center of the case; a thin wire will do. The wire is fastened with brads at suitable intervals, and both ends are inserted in the lead; the lead is then pressed together by means of a special tool made for the purpose, and the case can not be opened unless the seal is broken.

Another thing in connection with the pilferage of goods en route might be mentioned. Most makers have a weakness for stenciling or printing the contents on the sides of the cases, which they think will serve as an advertisement, whereas it serves principally as a guide to the man who is doing the pilfering and enables him to select cases containing goods which he can most readily dispose of. This has been proven over and over again from the fact that certain manufacturers' goods who do this "advertising" on their cases are more often robbed than others who have plain cases.

A PRACTICAL ILLUSTRATION.

I represent a very well known American manufacturer of tooth and hair brushes, and I sell their goods all over the world, and when passing through Egypt in November last I called to see the largest chemist in Port Said, who is a very good customer of mine. In talking over toothbrushes he said that he thought my prices were rather high for that particular brush, which is sold on its name, and as a reason he stated that a hairdresser next door had bought the same brush for about half the price, and upon my expressing a doubt he accompanied me next door, and we interviewed the party, who stated that he had bought a gross of them from some party who had called, and it was true that they were sold at half price. I immediately came to the conclusion that

some one in India would be short one gross of toothbrushes, as I was sure that the brushes had been taken from some case going to India, where we do a large business.

It was not until I arrived in central India that I learned to whom these belonged, and then I found that not only were the toothbrushes stolen, but also a large quantity of hairbrushes, the case being filled with coal and rubbish. This is hard on the dealer, as he received nothing for his money, the case being so cleverly opened that it could not be detected when taking delivery from the steamer; so no insurance was allowed. The value of the goods was $100. Strapping and sealing could not cost over 10 to 15 cents—practically nothing—and to save this small amount this large loss was incurred, not to speak of the duty which was paid on the value of the invoice and not refunded. This maker had the contents of the case printed in fancy red letters on the shipping boxes.

PROPER MARKING OF CASES.

Another serious fault is the marking of the cases by the manufacturer. Every export order has a mark of some sort on it, so that it may be easily distinguished, and which should agree with the mark on the invoice. Should the mark not agree with the invoice and also with the bill of lading, the importer is fined from 16 to 32 cents for each error. This is not only expensive, but causes delays in clearing the goods, which sometimes means wharf rent and pilferage. I have seen a shipment of 40 cases from New York, of a well-known general manufacturing concern, in which there were three errors in marking every case. The cases were all marked "P. M. B.," while the invoice and bill of lading read "L. M. D." The number on each case differed from the bill of lading and also from the invoice, and the marks on the cases were so indistinct and so small that they could hardly be read when they arrived. The manufacturer referred to does a tremendous business, so what impression do you think this makes on his customers abroad?

In connection with marking cases it is of the greatest importance that nothing but the shipping marks, such as appear on the invoice and the bill of lading, be put on the cases, otherwise the importer is liable to a fine. Frequently manufacturers use second-hand cases on which there are many old marks, so that it is often difficult to make out the proper mark. These superfluous marks and numbers cause much trouble in the custom-house and expense to the importer. Numbers and marks should always be made in stencil or in bold type and letters with black marking ink. The marks should be large enough to cover one side of a case, say 18 inches square, so that they can be read at a distance. You would be surprised to see the number of well-known manufacturers who mark their cases for export shipment with a blue lead pencil, sometimes with an ordinary black one, and you can imagine how much is left of that mark after it has rubbed up against dozens of other cases and been handled by coolies many times. To make it worse, I have seen such a mark in black lead pencil on a side of a case 4 feet square, dimensions of mark being about 3 inches square, and the case having different domestic marks on every side, it being a second-hand one, and the manufacturer did not think it worth while to scrape the old marks off.

BRAZIL.

AMERICAN SCHOOL FURNITURE ARRIVES IN POOR CONDITION.

The latest example of bad packing of American goods for shipment to Brazil is stated by Consul-General George E. Anderson to have been in school furniture, concerning which he writes:

Some time ago the school authorities of the State of Minas Geraes ordered about $10,000 worth of American school furniture for use in the schools of that State in and near Bello Horizonte, the State capital. The order was placed through the head of an American mission school in Bello Horizonte, and it was understood that the order was experimental and that if the furniture came properly, was what it was supposed to be, and gave satisfaction, the order would *be followed* by others.

In view of the fact that the State of Minas Geraes is very progressive, is pushing its educational development very rapidly, and is disposed to take up with American school methods in all lines—its present system of schools being arranged on the lines of the Massachusetts system—the importance of this order was to be duly appreciated.

The goods came in due time and were in such condition by reason of flimsy packing that a very large portion of them was little more than scrap iron and kindling wood. The concern financing the operation had paid about $8,000 on the order and has refused to pay more because of the manner in which the goods were shipped. There seems to have been no difference in the packing of these goods for shipment to Brazil by steamer and thence by rail with two transshipments from the ordinary packing for short-haul shipments in the United States.

INACCURATE INVOICES.

Another fault in American export methods has appeared in a shipment of school furniture for an American school in Juiz de Fora, Minas Geraes. This lot of furniture was invoiced in a Brazilian consulate in the United States as contained in, say, fifteen cases, when as a matter of fact the furniture itself was in fifteen cases and necessary parts accompanying it were in another case not invoiced. The result is that the goods are held up in the Brazilian custom-house until the ownership and contents of the extra case can be established in regular form. Assuming that the matter will be straightened out in due time the best that can be said of the matter is that there is a delay of more or less than three months in the arrival of the goods ordered by the school.

The necessity of following all shipping directions and of conforming to all legal requirements of consular and other invoicing before the goods leave the United States can not be too strongly impressed upon American exporters. The failure to properly meet all such requirements not only is embarrassing to the consignee and may mean a great delay in obtaining his goods, which in the meanwhile may be spoiling in the custom-house in a hot damp climate, but is likely to have financial results of a very unsatisfactory sort, the custom-house fines and penalties in Brazil and many other countries being severe.

THE CONTROLLING FACTORS IN TRADE.

It is safe to say that the proper regard and care for all shipping requirements, the proper packing, and the proper dispatch of goods by one of the faster and better class of vessels amount to more in the long run than slight differences in prices which many American shippers seem to regard as the controlling feature in such matters. The average Brazilian consumer of foreign goods gives less attention to price than to whether or not goods meet with his desires and requirements, whether he can count upon securing them promptly, and the credit upon which they are sold. Of course, all other things being equal, price will govern in Brazil as it does everywhere else, but the importance of other elements in trade must not be neglected.

There has been a vast improvement in the manner in which American goods are packed and shipped as a whole, but this improvement seems to come only after each firm commencing foreign shipments learns by costly experience that improved packing is an absolute necessity.

GERMAN EXPORT METHODS.

FORMATION OF A NATIONAL ORGANIZATION FOR TRADE PROMOTION.

Consul-General Richard Guenther, of Frankfort, furnishes the following information relative to a new movement of commercial organizations for the promotion of the export of the Empire:

In response to an invitation from the Central Association of Industrials, the Industrial League, and the Association for Commercial Treaties, a large meeting was held on May 2 at Berlin to consider the project of creating a great central organization for the promotion of the export trade of the Empire.

Besides the foregoing associations, the following prominent trade organizations were represented by delegates: Trade Treaties League, Association of Chemical Industries, Association of Electrical Industries, the Union of Berlin Merchants and Manufacturers, the German Export-Bank, the Association of German Exporting Firms, the German Tobacco Association of Frankfort, the Associated Paper Manufacturers, the Associated Sugar Interests, the Cotton Consumers, the Association of Bavarian Exporters, the Association of South-German Export Firms, the Association of Hamburg Exporters, the Elders of the Berlin Mercantile Guild, and the Central Diet of Germany's Chambers of Commerce. Different chambers of commerce of Germany and numerous smaller manufacturing and commercial bodies were also represented, and quite a number of members of the National House of Representatives were present.

Doctor Wendtlandt, the Syndic of the German Industrial League, addressed the assemblage as follows:

> Our exporters having agencies or branches abroad now receive from there information concerning foreign business opportunities many weeks sooner than those of our German exporters who depend on government or other courses. The projected Central Bureau for German Export Trade is expected to work in union with the Federal organizations, such as the consuls and commercial attachés, which it is hoped will eventually be embodied in a Federal department of commerce. In this respect Belgium and England have worked with great success and might serve as models worthy of our emulation. It is owing to this advantage that England has been enabled to crowd us out of our formerly held record of "first in percentage ratio" of increase of export trade. It is a fact that the need of such a "Central Bureau for our export trade" has been recognized by nearly all branches of our production.

Several other speakers presented their views, after which the subject was submitted to a special committee.

MISCELLANEOUS.

PARCELS POST.

BRAZIL.

AMERICAN TRADE HANDICAPPED TO ADVANTAGE OF EUROPEANS.

Consul-General George E. Anderson, of Rio de Janeiro, points out how successfully European countries use the Portuguese parcels-post system to Brazil:

There is a parcels-post convention between Brazil and one other country only, but that convention operates for the benefit of the trade of all countries in Europe. The convention with Portugal was effected in 1900, and the number of packages handled since that time has been—1900, 186; 1901, 2,700; 1902, 6,906; 1903, 11,400; 1904, 18,143; 1905, 37,338; 1906, 47,213, and in 1907, 54,916.

Brazilian merchants are complaining that the imports by means of the parcels system have come to be a serious inroad upon their trade, and the most influential journal in the Brazilian capital has taken up their complaint with a view of arousing opposition to the further continuance of the convention.

The matter is of more than passing interest to the United States for the reason that under present conditions the United States is the only one of the countries having a considerable trade with Brazil which has no service with this country, while all its trade rivals have such a service. So long as Great Britain and Portugal have a parcels-post convention and Portugal and Brazil have one, the means of shipping parcels by post from Great Britain to Brazil is quite plain. The same is true of other European countries and of countries dealing directly or indirectly with Portgual with such a postal agreement. In the case of Europe, however, shipment by way of Portugal is the natural route to Brazil, steamers leaving Lisbon as the last port of call in Europe proper on their way out. The advantage of the present system to most European countries in most respects is all but that of a direct convention of their own in each case.

HAMPERING AMERICAN COMMERCE.

Merchants here dealing with the United States have been hampered in many ways. For instance, a rubber-stamp manufacturer in Rio de Janeiro has from time to time ordered small parts needed in his business from American dealers. The latter were instructed by him to place letter postage on the package at international postage rates. Not only did this mean great expense compared with the value of the goods, but generally it resulted in the American manufacturer, accustomed to sending parcels in domestic service, failing to place enough postage upon the package to carry it.

Under the postal rules the package was not forwarded "postage due," but a notice was sent the addressee here that a package ad-

dressed to him was held in the American post-office for insufficient postage and that if he would send the proper amount in stamps the package would be forwarded. Assuming that he was able to do this promptly, it is evident that his package was held in the United States two months, and the round trip for order and goods required four months instead of two months, as expected. Compare this with a possible round-trip order and goods at low postage rates from Europe in six weeks and the reasons why American trade has suffered are quite evident.

The goods brought by the parcels post from Europe are especially valuable, as they are often samples, and, while of no great value in themselves, represent a valuable factor in international trade. Nevertheless, duties were collected upon them in the Brazilian custom-houses last year to the extent of substantially $203,500, the value of the goods probably being about the same. A large portion of the parcels-post imports are of clothing, boots, shoes, and similar goods, some of which would doubtless come from the United States in preference to other nations were the same facilities to be had.

CHINA.

INADEQUATE AMERICAN FACILITIES AT PORT OF SHANGHAI.

Consul-General Charles Denby, of Shanghai, transmits the following statements by United States Postal Agent John M. Darrah, of that Chinese metropolis, on the transmission of packages by mail:

Attention is called to the following facts relative to the arrangement, under the Parcels Post Convention between the Empire of Japan and the United States of America, of 1904, by which parcels are dispatched from the United States to places in China:

The number of parcels sent by parcels post from the United States to places in China, other than Shanghai, from August 20, 1907, to March 26, 1908, was 2,010. The number addressed to Shanghai was 805. At least 40 per cent of the parcels were addressed to interior places where there are no Japanese post-offices, and were, therefore, sent to this agency to be forwarded to their destinations by the Chinese Imperial post-office. I handle this mail solely for the convenience and accommodation of Americans in interior places, for if I did not do it the parcels would be returned to the senders.

During the period under review only 14 parcels were sent from Shanghai through the Japanese post-office by parcels post to places in the United States, while this agency sent 5,472 registered parcels with an average weight of 2¾ pounds, although the senders could have saved from 10 to 20 cents United States gold on each parcel by sending through the former channel.

ADVANTAGES OF OTHER NATIONS.

The British post-office at Shanghai reported the following at the end of the British fiscal year of 1907: Parcels received, 24,262; parcels dispatched, 19,290. This large number of parcels received is a great boon to British subjects in China, who can get small quantities of necessary merchandise from home, and it represents a considerable trade for the merchants at home.

Upon making inquiries at the imperial maritime customs it was ascertained that next to the British post-office the Germans pass the largest number of parcels, the number averaging from 300 to 400 per each German mail, and their mail service is fortnightly. The limit of weight per parcel is 22 pounds.

The French post-office received 9,410 parcels and dispatched 8,604 during the French fiscal year of 1907. The French limit of weight is also 22 pounds.

A comparison of the foregoing statistics shows the great advantage which the subjects of other nations have over American citizens in the facilities for getting parcels from home and sending parcels to their friends in the home lands. It is true that by every mail we receive a few parcels by parcels post from Honolulu, and this privilege is greatly appreciated. I think that it will be generally conceded that this postal agency is of the greatest importance to the business community of Shanghai, and anything that can be done to improve the service for American merchants will be in the interest of trade. Our people need every possible facility for competing with the merchants of other countries.

UNITED KINGDOM.

INTRODUCTION OF COLLECT ON DELIVERY PARCELS POST FEATURE.

The British Board of Trade Journal makes the following official announcement of the inauguration of a "collect on delivery" system for the shipment of packages by parcels post from the United Kingdom:

To increase the facilities for trade in small articles within the empire, the Postmaster-General has been in negotiation with certain of the colonies and dependencies for the establishment of a mutual cash on delivery system. Under this system goods can be posted from this country and the money collected for the vendor by the post-office at their destination, and vice versa.

The first of these services was brought into operation on June 1, 1908, and is available between the United Kingdom and Egypt, Malta, Cyprus, and the British post-offices at Constantinople, Smyrna, Beyrout, Salonica, and Tangier. In outline the procedure is as follows: The vendor takes his packet to a post-office, fills in a form, and pays a special fee of 2d. (4 cents). He is given a certificate of posting, which he ultimately restores to the post-office when receiving the cash.

The post-office collects from the addressee the value as stated by the vendor in the form, and remits it by money order or postal order to the vendor, after deducting whatever may be the commission on the money order or postal order itself, in addition to the delivery fee.

The chief restrictions are that the sum to be collected (the "trade charge") must not exceed 20l. ($97.33), that the system is confined to goods sent in fulfillment of an order, and that the goods must be sent by parcel post unless they are registered or insured.

Detailed information concerning this cash on delivery service may be obtained at any post-office. It will also be given in the July number of the Post-Office Guide.

LARGER PACKAGES TO BE SENT FROM UNITED STATES AT LOW RATE.

A new arrangement will shortly go into effect with the United Kingdom which will raise the limit of weight for parcels transmitted through the mails between that country and the United States from 4 pounds 6 ounces to 11 pounds. The new rate will be 12 cents per pound.

AMERICAN BOOKS IN ENGLAND.

OBSTACLES TO THEIR GENERAL INTRODUCTION CAN BE OVERCOME.

The following information concerning American books in England and the means to be taken to increase their sale in the Kingdom is furnished by Consul J. Perry Worden, of Bristol:

American books are seldom seen amid the flood of publications in the English book world, and some works well known in the United States, particularly encyclopedias and certain books of reference, are practically unknown here. The cause for this failure of Americans to be properly represented in a market, which, considering the common English language, should always be accessible to them, is due, in part, to certain English conventionalities and traditions, but quite as much or more, it is to be feared, to want of American effort in this direction.

An obstacle of long standing to the introduction of American books in England, is the objection of many English people to American spelling, seen in such simpler forms as "color" for "colour," "program" for "programme," "check" for "cheque," etc., and it must be admitted that with thousands of readers this objection has not been eradicated, although it has been partially overcome by natural causes, such as travel and personal contact with Americans.

Some American publishers, notably one having a prosperous branch house in London, go after English trade by printing their books according to the orthography demanded in England, knowing that the average less susceptible American will not care which of the two spellings is used.

It is encouraging to note that there is far less prejudice than formerly against American books and their contents, as the great popularity in England of some American authors, who have caught the public fancy, substantiates.

HOW TO INTRODUCE AMERICAN BOOKS.

Few undertakings in the United States are better represented in American advertising columns than the publishing of books, and why the enterprising American publisher, so ready to lavish his money for developing and holding his home market, should fail to include such a great field as that of the British Isles, is hard to understand. Even in London, American books are conspicuous by their absence, and in the provinces it is almost impossible to obtain even announcements of them. Well-known and long-experienced booksellers in Bristol and other equally important cities complain of the serious difficulty they encounter, after they have received the announcement of an American book, to learn who carries it in stock in London.

It seems to be the fact that American publishers often wait until they are sure a book is successful at home before sending any copies abroad, and then, when perhaps it is too late to secure an English copyright, they ship a couple of hundred copies or sets to some English publisher, sending the same in sheets and allowing the local agent to put his own imprint on the title page, to bind it up as he chooses, and to advertise it how and when he may; or, they ship an equally limited number of copies, bound and complete, but not hav-

ing the name and address of the English distributing agent anywhere on the copy.

What is needed, in the opinion of several of England's best-known bookmen, is a return to the old custom of printing the name of the foreign bookseller, as well as the original American publisher, on the title-page of the first and all subsequent editions of the work. If American publishers will do this, and will more extensively advertise their books in England, giving the address of the English dealer, and showing the English trade clearly where it may obtain the books in question, they will rapidly build up a body of patrons here well worth having.

Even in cases where American houses have branches of regular selling agents, it happens sometimes that a book issued by a firm in America is sold in sheets to some entirely different house in Great Britain than ordinarily, and in the absence of definite announcement as to who has the work wanted, bookseller and librarian may search and correspond for weeks in an endeavor to get hold of it.

DISTRIBUTING BUREAU RECOMMENDED.

While two or three American publishers are likely to continue to maintain their own establishments in England, one way of meeting this difficulty in the distribution of American books to the English trade would be for the majority of American publishers to organize a central bureau or bookshop, for American books, on somewhat the same lines as the "Bibliographisches Institut" in Leipzig. All American publications, having a prospect of sale in England, could be sent there, and thence distributed to dealers in the metropolis and the provinces, and the cost of maintaining such a cooperative central book-store could be realized by a percentage assessed on the amount of shipments or sales.

When these problems of adequately announcing in England the publication of American books, and of rapidly delivering the same to the English trade, are solved, the American publisher need hardly concern himself about anything else unless it be the adaptation of price to the English scale. As a rule, books are sold somewhat cheaper here, a volume listed at $1.50 in the United States being offered for five shillings, or about $1.25 here.

Generally speaking, American books are well bound, particularly in cloth, but English book-lovers are fond of elaborate leather bindings, and in any case like a method of manufacture that permits the book to be easily opened without "breaking the back;" and it would be well for the American publishers to note that one firm of English binders which controls a patent for such durable binding sends very large quantities of books, especially popular fiction, to the public libraries in the United States, thus competing with American binding, solely because of the merits of its process as a guaranty of durability. If, in addition, American publishers would take pains that works dealing with travel in England, American criticisim of English life, institutions and literature were made known to the English public, and would not trust for announcements merely to a few reviews, but employ an agent of up-to-date ways and ideas, such literary endeavors as the recent books on London and other English towns, by an American author, would have still greater vogue.

OPENING FOR ENCYCLOPEDIAS.

There is one class of books, in particular, which Americans publish successfully at home, and with which they do practically nothing here, where the field should be excellent. This class includes encyclopedias and special books of reference, which, partly because of their nature, and partly because of the price at which they must be sold, can not be distributed so well through a lukewarm agent, but must be pushed energetically by the publishers, or their more immediate representatives. For example, there is an American encyclopedia having a national circulation in the United States which is entirely unknown here in either the trade or in public and private libraries. The work in question, however, is in some respects by far the best which has ever been issued in the English language. The breadth of treatment of this encyclopedia, its up-to-date revision, and its attractive letterpress, should make it very acceptable to the cultured Englishman, while its price is not at all prohibitive, English people buying, on the average, more expensive books than Americans, although it must be admitted that a lesser number of private families in England seek to own such encyclopedic works than in the United States.

All that is needed, perhaps, is an energetic representation of the work by a refined and intelligent agent, man or woman, able to remain for some months in such a city or vicinity, and to call personally upon representative people at their convenience. Such a great literary and publishing work speaks well, not merely for American enterprise, but for American culture, and it is unsatisfactory to the American, desirous of obtaining for his country and people all the recognition to which they are entitled, never to see such publications in evidence here, and never to meet a cultured Englishman who has heard of them. Even large publishers, importers and exporters of books, seem never to have received an announcement of publications that are known in nearly every American household.

WORKS OF REFERENCE.

What is true of this extensive encyclopedia would probably be true of various special American books of reference—statistical volumes, and illustrated and descriptive works on the United States. The professional man, journalist, and traveler will always be glad to know of or secure such books as these, knowing well that books of reference on America, published recently in the United States, will be most likely to be authoritative, and to contain statistics and other information not found in the best of foreign annuals. The growing use among English newspaper publishers of half-tone illustrations must naturally increase the demand among journalists for illustrated portfolios of American scenery and life.

The frequent application to a consulate by professional people for certain information, found only in American books of reference, and often only in volumes embellished with late pictures of familiar life in the United States, indicates that there is a field here for American publications that might well be supplied by the professional American publisher, establishing his agencies and agents in England, or by the enterprising individual agent, perhaps some young and energetic college or university man or woman entering English territory on his or her own responsibility.

AMERICAN TEXT-BOOKS.

POSSIBILITIES FOR THEIR INTRODUCTION IN BRITISH ISLES.

Consul Worden, in a subsequent report, makes these suggestions on the possibilities of more extensively introducing American-made text-books into Great Britain, especially in conjunction with the proposed visit of American school-teachers there:

Some four or five hundred American school-teachers from various States of the Union will visit Great Britain this year, beginning with a small party scheduled to sail from New York in the autumn. Considering that the United States leads England and Scotland together, in variety and total number, in the production of school and college text-books, and that without doubt many British teachers, seeking the best, would be glad of at least a wider acquaintance with American publications, it would seem that some arrangement might be made with those in charge of the movement whereby American text-books, or at least those likely to be imported into Great Britain, could be represented.

Such an exhibit of the combined product of American pedagogy and American bookmaking might not only advance American trade, but lead to higher results on the part of the British teacher. A certain amount of reluctance, perhaps, due in part to American orthography and in part to content, emphasizing, as it sometimes does, the American point of view, may be expected, but no occasion could be more opportune for overcoming this than in this proposed personal touch of American and British teachers.

BUSINESS PROCEDURES.

It must be expected, also, that the greater cost of production of books in the United States, due in part to the difference in the price of labor in the two countries, will operate to make a selling price too high for Great Britain; but as American publishers have often made a lower price for books or magazines offered here, it is possible that this difficulty could be surmounted, although the margin in schoolbooks is small.

Two or three plans might be adopted to attain the end suggested. American publishers might combine to secure one or two impartial agents who would accompany the teachers, make such a display of books in each town visited as would be practicable, and distribute advertising matter pertaining to the publications; or agents might be employed to distribute the advertising alone, confining any further display to book-agents' samples, specimens of illustrations, text, binding, etc. Should this prove too expensive, or should there be objections to an outsider accompanying the teachers, it is possible that arrangements might be made whereby certain teachers could represent the publishers, confining their efforts, perhaps, strictly to making known the publications and the headquarters for obtaining the same, together with the advantages of a particular text or method over earlier or out-of-date publications, and not trying to effect any sales. American publishers might also increase their advertising of American text-books during the period in which the teachers will be here.

While differences of opinion will always exist as to books and methods, it can not be denied that Americans have published many valuable works for schools and colleges. In the modern language

field Americans are among the leaders in the variety and quantity of publications. Books designed for the study of German, French, Spanish, and Italian published in the United States are almost invariably equipped with practical notes and well printed and bound. Now that the study of modern languages, and especially German, is becoming more general in Great Britain, a good field should be found here for American-made text-books. Likewise, in modern history, the natural sciences, nature study, etc., Americans have either led others or have produced results of which they need not be ashamed. It is doubtful, for example, if any publishing house of any country has ever issued a better-printed and better-illustrated school history of England than was recently published in the United States, while few countries offer such opportunities for nature study and the use, outdoors, of the many delightful American text-books dealing with fields and woods.

Should it be possible to make such a display in Great Britain of American school and college books at a time when the British pedagogical mind will again be directed to American institutions, it would doubtless give another incentive to the establishment in London of better and centralized agencies for the supply of American books in general.

PATENTS AND TRADE-MARKS.

JAPAN.

PROTECTION FOR PATENTS, TRADE-MARKS, ETC., AT GRAND EXPOSITION.

In reply to a communication concerning the protection of patents, trade-marks, and designs of Americans participating in the grand exhibition of 1912, Consul-General Henry B. Miller transmits the following communication from the director-general of the exhibition:

According to the provisions of the present patent law, article 15; the design law, article 22; models of utility law, article 20, and trade-marks law, article 20, when notice is given to the patent office, before installing such articles in the exhibition, if application for patent or registration has been made within six months from the day of receipt of said article at the exhibition, such application shall have the same validity as if it had been filed on the same day as the original notice. From this it will be seen that there will be no danger for any invention, installed in the exhibition, to be regarded as "publicly known," which on that account will properly insure the right of the inventor, while with regard to designs, models of utility, and trade-marks, after one has given notice concerning them to the patent office, as aforesaid, he shall enjoy a prior right to them. So that by enforcement of these laws we feel that a proper protection for foreign exhibits is already assured. But in order to render the right of foreign exhibitors more secure, and also to make it easier for them to send articles for exhibition, the Imperial Government introduced in the present session of the Diet a bill bearing on the following heads, which has already passed the House of Representatives:

1. A person having an article which is to be exhibited at the Grand Exhibition of Japan, who applies for a patent on his invention or for registration for designs, models of utility, and trade-marks before installing the same, and obtains patent or registration afterwards, shall have the same protection as if such exclusive right had been granted on the day when the installment was made.

2. According to article 38 of the present patent law, if the patentee, without proper reason, has not worked or exploited his invention in the Empire within three years from the date of his patent, or discontinues working or exploiting t invention in the Empire for more than three years, and has refused the co of a third person to purchase or use the invention on reasonable terms, t *director of* the patent office may revoke such patent. But in case such *ted articles* are exhibited at the Grand Exhibition of Japan the patentee

shall be regarded as if he had worked or exploited his patented invention in the Empire during the time such articles are on exhibition.

3. In connection with the importation and exhibition of articles which are imported from foreign countries to be exhibited at the Grand Exhibition of Japan no suit prescribed in the laws and rules relating to patents, designs, models of utility, and trade-marks, or no prosecution can be brought against the exhibitor for infringement of the rights which are protected in said laws.

[A copy, in English, of the laws and rules relating to patents, designs, and trade-marks is filed in the Bureau of Manufactures.]

BRITISH INDIA.

REVISION OF PATENT SYSTEM IS PLANNED—INVENTIONS FOR PAST YEAR.

In reviewing the operations of India's patent office for the past year Consul-General William H. Michael states that an improved law is contemplated. He writes:

The recent report of the Government on the patent office at Calcutta states that there were 615 applications made during 1907 for leave to file specifications, and that 508 specifications were actually filed. The total number of applications under the Inventions and Designs Act V of 1888 was 8,959 and of specifications 6,916. The range of inventions for which protection is sought is said to be as usual very wide, and as in previous years, the railway and textile industries predominate.

One or two applications are said to deserve particular notice. One specially mentioned is that of an inventor in this country, who, in spite of apparently insuperable difficulties, both theoretical and practical, has attempted to produce a legible record of speech by a combination of telephone and typewriter with electric selecting mechanism for the various elementary sounds, but he has been unable to complete his application. Drinking tumblers made of ice, a motor car driven by hand power, and the usual perpetual motion are said to be other proposals of varying interest. In regard to applications for the registration of designs there were 34, of which 25 were allowed and 5 refused, the remainder now pending or abandoned. Several applications relating to religious tokens or ornaments are said to have come from Delhi and Madras. The Madras trade appears to have been started by converting into jewelry French 5-franc gold pieces and it is reputed to have grown considerably in consequence.

The amendment of the Indian patents act so as to bring the system of protecting inventions and designs more into line with the practice in England is in hand and a draft bill is under preparation. The bill will shortly be ready for examination, and when the necessary sanction has been obtained it will be submitted for the criticism of the manufacturing public.

HONGKONG.

DECISION INVOLVING TRADE-MARKS ON FLORIDA-WATER BOTTLES.

Consul-General Amos P. Wilder, of Hongkong, states that a recent decision involving trade-marks on Florida water has given rise to much diversity of opinion in that Asiatic city, and outlines the case as follows:

Certain merchants were charged with applying a trade-mark to bottles of Florida water in imitation of a well-known brand. Being

a criminal case, the prosecution was in the hands of the local British attorney-general. The chief justice, in summing up, said there was no suggestion in the prosecution that the plaintiffs claimed the right to the exclusive use of the name Florida water. Florida water in Florida-water bottles was common property. He was disposed to go further and to say that floral designs were also common property in regard to Florida-water labels, the whole idea being to convey the meaning of extract of flowers. The alleged imitation carried floral scroll work with two Chinese girls, whereas a fountain is the dominant figure in the original mark. The jury, in deciding whether the labels resemble each other, were to take into consideration the general device of the two labels and on that decide whether they resemble one another. They were to treat that question as reasonable men. Referring to the words "Florida water" on the labels, it was noted that the type was absolutely identical and its position was the same on both labels. The jury were to consider whether any one of themselves or of their household would likely be deceived by the imitation.

The jury of 7, after twelve minutes' consideration, returned a majority verdict of 6 to 1 for the defendant. The chief justice protested against the decision and refused to award costs.

DENMARK.

PENALTIES FOR USING INCORRECT DESCRIPTION OF GOODS.

In answer to an inquiry from the National Association of Manufacturers, Consul-General Frank R. Mowrer, of Copenhagen, transmits a translation of the Danish law relating to the incorrect description of goods offered for sale in that Kingdom, of which the following are the principal provisions:

The person who sells or offers for sale goods for consumption or for resale in Denmark, on which or on the labels or packing of which a description is made, which either contains an incorrect indication as to the place of production, the kind, the substance or the mode of manufacture of the goods, or is of such a nature that it is apt to give a wrong idea in any of the above-named respects, or fraudulently indicates that the goods have been rewarded at expositions or supplied with certificates or recommendations from authorities, or that the goods are or have been the object of a Danish patent, unless the indication was correct, at the time the description was made, is liable to a fine from 50 to 2,000 kroner ($13.40 to $536); for repeated offenses the punishment may, under aggravating circumstances, be extended to imprisonment.

The person who has sold goods for consumption or for resale in Denmark, on which goods or the labels or packing of the same any of the above-named incorrect descriptions have been made, shall (if the buyer at the time he bought the goods was not informed of the incorrect description), be obliged to take back the goods and refund the sum paid; and, if he by the sale has been liable to punishment according to the above provisions, he shall furthermore, according to the usual rules, compensate to the buyer the loss resulting from the sale.

The person fined, if the goods offered for sale are still in his possession or are at his disposal, shall be required by judgment to remove, or by a distinct and durable addition alter the incorrect description, or, if the goods are not manufactured in Denmark, he can export them to the country of origin if he should prefer to do so, instead of correcting the description.

The person who fraudulently indicates on a signboard, or in advertisements, or invoices or other trade documents, that he has received rewards at expositions, recommendations or certificates from authorities for goods manufactured or sold by him, or that he is the holder of a Danish patent or dealer in goods, protected by Danish patent, shall be fined up to 500 kroner ($134).

[A complete copy of the law is on file in the Bureau of Manufactures.]

GERMAN COLONIES.

LAWS OF THE EMPIRE APPLY—REGISTRY AT BERLIN REQUIRED.

An American firm having made inquiry regarding the protection of trade-marks in German possessions, the following information from Vice-Consul Ernest Vollmer, at Tsingtau, will be of interest to exporters:

According to paragraph 4 of the imperial orders of November 9, 1900, regarding laws in the German colonies, the law of the German Empire for the protection of trade-marks of May 12, 1894, is in force in the German possessions. Registry of trade-marks is made and the register kept by the Patent Bureau in Berlin. Notice of the establishment of a trade-mark must be made to that office in writing. With every such notice there must be a description of the business in which the proposed mark is to be used, a description of the goods which it is to mark or accompany, as well as a clear copy and description of the mark, as far as these may be deemed necessary. For every trade-mark a fee of 30 marks (mark=23.8 cents) is to be paid upon giving the notice.

TURKEY.

FEES FOR PROTECTION FOR A TERM OF FIFTEEN YEARS.

The Trade Journal of the British Chamber of Commerce of Turkey states, for the information of British manufacturers, that it is possible for them to register their trade-marks in Turkey. The following fees afford protection for fifteen years: £T 10 (£T=$4.37) for registering one mark; £T 16 for two marks at the same time; £T 21 for three marks at the same time. There are other small charges in connection with the registration. The British Chamber of Commerce at Constantinople are willing to recommend an agent through whom it is desirable to register the marks.

FRAUDS IN CURIOS.

ADVICE TO AMERICAN TOURISTS WHO ARE SEEKING ANTIQUES.

Supplementing the consular report from Belgium one year ago, warning American tourists against the purchase in Europe of so-called "antiques," Consul Maxwell Blake sends from Dunfermline the following advice pertaining to Scotland and to the "Old World" generally:

As the summer season approaches, in anticipation of the usual annual influx of Americans, many of whom continue under the delusion that all things in this country are as old as its history, the growing legion of so-called "antique" dealers, from cities to remote villages and unfrequented farmhouses, are now occupying themselves in arranging for display their various stocks of made-to-order antiquities.

It ought by this time to be known to ev t of ex ience that the genuine antique, providi it has thing more than age alone to con ate it, if the market as an article to be c ly This on the contrary seems to a

known, especially to the average American abroad, in whose lack of knowledge of such things lies the security from punishment and the profits of the fraudulent miscellaneous antique dealer.

MAKING ANTIQUE GOODS.

Thus, largely as the result of American demand—a demand that has long outgrown the supply, and which has increased with the disappearance of the genuine antique—such irresistible opportunity and reward has been offered the forger that now, thanks to his productive industry, there is both abundance and variety of supply again of "antiques" executed with all degrees of skill, varying from the crude products of amateurs to others of such pretentious workmanship as often to puzzle the connoisseur himself.

Rare old-period furniture, given the gloss and appearance of age by constant rubbing with bone and pumice stone; old hand-rolled copper plate, which has not been made since 1840, a most favorite article of deception, over 1,000 pieces of which have been lately examined without finding half a dozen genuine specimens; Spanish ivories, skillfully "aged" brown by acids; first-state engravings and prints; Queen Anne silver, superstructures of which are built up upon the handle of an old spoon bearing genuine marks; "old" Bristol and Waterford hand-cut crystal; and that particular kind of china which is in most momentary demand, whether it be Oriental blue and white, or Lowestoft, abound everywhere in such wholesale lots as one would think should alone serve to excite the suspicions of any thoughtful person.

COLLECTIONS AND COLLECTORS.

In the preparation of this article visits were paid to scores of "antique" shops, from a few of the more trustworthy ones in the large cities to those of the smaller and more cunning and less suspected ones in near-by villages and along motor-car highways, the latter establishments generally conducted by some "interesting old character" who sat smoking his pipe indifferently, offering his wares in some basement difficult of approach, the windows of which were conventionally screened by a thick net of cobwebs.

The first delusion to be got over is the rather prevalent idea that this fad of collecting, or the actual love for antique objects, is something peculiar to the people of the United States, who are supposed to put greater store upon the possession of such things than is common abroad. This is a misconception. On the contrary, throughout Great Britain, and even more so on the Continent, collecting has been a passion since the eighteenth century. The British Isles have been searched up and down from door to door by experienced collectors for upward of fifty years, and not being large geographically the thoroughness of the search shows the remote likelihood of picking up something good for little money at this late day during a few weeks of a summer sojourn abroad.

Don't look for bargains in antiques. If one wants genuine things he should visit a dealer of recognized standing and reliability, for there are a few such; pay him his price, which is sure to be high, and purchase only upon his written guaranty that the article is as represented, genuinely old and actually of the period. One can not become a judge of antiques by reading a few books, and if a person has neither *the means to* buy, nor the experience necessary to select what is really

worth purchasing, it is far more satisfactory to buy first-class reproductions; the latter are what one generally finds in the average "antique" shop at more than twice their actual value.

REPRODUCTION OF HISTORICAL OBJECTS.

Beware of buying Robert Burns chairs, and Mary Queen of Scots tables and all such things. It is safe to say that they are spurious. Beware especially of Sheffield plate; it is practically all modern, or old pieces plated over, which completely destroys its value as an antique. Buy the new as such at one-half the prices asked for it by the "antique" dealer.

Beware also of engravings and prints. Many reproductions of old prints are made by artists of great ability, with no intention at deception. Some of these I have lately seen in antique shops, artfully "aged" and hung in old frames, the unscrupulous dealer asking four or five times the price the prints can be purchased for of the publishers. Crystal and china are also made in the old shapes and often in the actual molds of a hundred years ago; these are legitimate reproductions. It is the so-called "antique" dealer who buys them up and offers them to the unsophisticated as genuine.

EXPOSITIONS AND CONVENTIONS.

BELGIUM.

ARCHEOLOGICAL CONGRESS AT LIEGE.

Consul H. Abert Johnson advises that the Belgian archeologists and historians will hold a congress at Liege during the month of August, 1909, concerning which he says:

The organization of this meeting has been intrusted by the Archeological and Historical Federation of Belgium to the Liege Historical Society and the Archeological Institute of this city. These societies have selected a committee to direct the congress, composed of the following prominent men: Professors Julien Fraipont, of Liege, and Godefroid Kurth, of Rome, as presidents; Max Lhoest and Schoolmesters of Liege, as vice-presidents, and Joseph Brassine, sub-librarian at the Liege University, secretary of the Historical Society, together with Lucien Renard-Grenson, secretary of the Archeological Institute, as general secretaries.

The congress will coincide with the official opening of the Museum of Archeology, which will be installed by that time in the "Maison Curtius," an old and historic mansion, now the property of the city.

AMERICANS INVITED TO JOIN IN ADMINISTRATIVE CONGRESS.

Baron Moncheur, Belgian minister at Washington, advises the American Government that on the occasion of the Universal Exposition of 1910 there will be held under the patronage of the King's Government at Brussels an International Congress on Administrative [illegible]ences. He invites official delegates to this meeting from this Government, and suggests the creation in this country of committees to participate by securing reports and papers bearing on the progress the Congress, etc. The topics to be discussed will embrace the administrative [illegible]ces, police, hygiene, finances, [illegible] of communi[illegible]ics of cities, preservation of sites ments, [illegible]sion, and industrial [illegible].

ITALY.

INTERNATIONAL DISPLAY OF THEATER ARTICLES.

Consul James E. Dunning advises that an international exhibition of theater articles will be held at Milan in 1913 and believes it to be a good chance for the American manufacturer in this line to bring his stock before the public and create a demand for his goods in Europe. Inquiries may be addressed to the Esposizione Industriale Permanente, Comitato Esecitivo dell' Esposizione del Teatro, Corso Vitt. Emanuele 24, Milan, Italy.

AMERICAN PUBLISHING ENTERPRISE.

ENGLAND AFFORDS A GOOD FIELD FOR CANVASS OPERATIONS.

Consul J. Perry Worden, in a report from Bristol, says that the success of one American firm manufacturing stereograph views in introducing their apparatus and pictures into England, a quarter of a century after the stereoscope was popular there, is evidence of the fact that much depends on the manner in which an article is offered for sale and who are selected for its introduction. This leads the consul to submit the following suggestions as to trade canvassing:

It is a new proof of the interest of many English people in American life, particularly, perhaps, in the American world of nature, and that if American publishers would increase their efforts to place before the traveling public here those features of American landscape and familiar life characteristic of the New World they would, notwithstanding the reluctance of some to take "things American," be well rewarded for their pains.

The stereoscope publishers have divided their views into groups according to countries or cities or special localities, prepared a descriptive text-book for each book, and devised a map to accompany the views and texts. Educational institutions, libraries, and prominent men and women are among the patrons of these American stereoscopes, and, although one set of views and a stereoscope may be had for as low as $2, some orders range from $50 to $1,500.

American publishers of illustrated books dealing with scenery and everyday life in the New World would also do well in Great Britain if they would but make their publications better known.

This stereoscope trade is conducted solely by personal solicitation on the part of special, selected agents. Care seems to have been taken to get men of refinement, and often of considerable culture, and Americans themselves have sometimes taken the field here. One man, a college graduate, cleared amounts varying from $496 to $1,068 in several successive months.

Without doubt there are other publications and ventures of this sort that might be as successfully introduced into England. American college students of culture, tact, and push—particularly those students already having some knowledge of England and the English—should do well for a summer with a strictly high-class American publication, especially one dealing in an up-to-date manner with American life.

FOREIGN CENSUS STATISTICS.

UNITED KINGDOM.

DECLINE IN THE BIRTH RATE IN SCOTLAND—INCREASE IN MARRIAGES.

Consul Maxwell Blake, of Dunfermline, in advising that, according to statistics, the birth rate of Scotland has shown a steady annual decline for the past forty years, summarizes the vital records of the country as follows:

In reviewing the annual report of births, deaths, and marriages registered in Scotland during the year 1907, I find that the estimated population of Scotland is given as 4,776,063, of whom 2,331,907 were male, and 2,444,156 female. This is 49,993 more than the population of Scotland in 1906, the increase of the males being estimated at 26,057, and that of females 23,936. The estimated population of the principal town districts is 34,984 more than the previous year, that of the large town districts 6,606 more, and that of the small town districts 10,019 more; but that of the mainland rural districts is 984 less, and that of the insular rural districts 632 less.

In 1906 the birth rate was the lowest ever recorded in Scotland. The birth rate for 1907 was even less, as the total number of births of living children registered in Scotland during last year was 128,789, or 3,131 fewer than the births registered in the previous year, and 858 more than the average number of deaths registered during the previous 5 years. The death rate of the year was 16.18 per thousand of the estimated population, a rate 0.19 more than that of the previous year.

The total marriages registered in Scotland during the year 1907 numbered 33,260, or 137 more than registered in the previous year, and 1,170 more than the average annual number registered during the previous five years.

BRAZIL.

POPULATION OF THE FEDERAL DISTRICT—FOREIGN RESIDENTS.

Consul-General George E. Anderson, of Rio de Janeiro, gives the following summary of the census of the Brazilian Federal District taken on September 20, 1906, and just published:

The total population of 811,443 compares with 522,651 in 1890, and 266,831 in 1872. The males number 463,453, and the females 347,990. The suburbanites number 133,402, the balance living in Rio de Janeiro proper. The foreigners number 210,515, of which 122,200 are Portuguese, 25,357 Italians, 20,800 Spaniards, and 2,575 Germans. The number of persons over 100 years of age is given at 152, one being 138 and one 130 years old. The number of buildings of all kinds is placed at 84,275.

BOLIVIA-BRAZIL BOUNDARY.

Consul [illegible] of Santos, reports that the [illegible] commissioners [illegible] ment for the [illegible] listing [illegible]

the Paraguayan capital in May en route for Corumba in the State of Matto Grosso, Brazil. The chief engineer of the Bolivian party is from the royal artillery of the British army, who was especially appointed by his Government to accompany the expedition. In order to determine the boundaries between Bolivia and Brazil these parties will be obliged to work through an extensive zone of unexplored and unknown territory, and their work will undoubtedly attract considerable attention, as the region to be mapped out is supposed to be very rich.

BRITISH TERRITORIAL ADDITION.

SIAMESE STATES TAKEN OVER BY THE BRITISH GOVERNMENT.

Vice and Deputy Consul-General George E. Chamberlin, of Singapore, reports that, according to a Reuter dispatch, the States of Kelantan and Tringanu, in the Malay Peninsula, have been taken over from Siam by the British Government. The two States cover an area of between 8,000 and 9,000 square miles. In Kelantan there are valuable British interests, one British company owning a concession of some 2,500 square miles therein. The State is believed to be rich in gold and tin, and rubber growing has met with success. The State of Tringanu is practically untrodden ground for Europeans. There are no roads, and the principal river, the Tringanu, is rendered useless for navigation halfway on its course to the sea by a series of large waterfalls. Tin is known to exist in the south of the State.

BOOKS IN LATIN AMERICA.

AGRICULTURAL LITERATURE BECOMING QUITE POPULAR.

Consul E. H. Plumacher states in a report from Maracaibo that during the last few years the South American people have found out that their future lies in the development of their agricultural resources. The people are eager to study agriculture and become better acquainted with the tilling of the soil. Everywhere agricultural societies are being formed, and books and magazines on this subject are much sought after. Some magazines printed in Spanish in the United States are becoming quite popular in Latin America, and are good advertising mediums for reaching the consumers.

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FOREIGN WEIGHTS AND MEASURES

The following table embraces such weights and measures used in foreign countries as have been collated from reports of consular officers and other sources:

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentina	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Barril	Argentina and Mexico	20.0787 gallons.
Berkovetz	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.119 inch.
Butt	Spain (wine)	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Egypt	99.5 pounds.
Do	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Colombia	250 pounds.
Do	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do[a]	Japan	1.32 pounds.
Do	Java, Malacca, and Siam	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Chetvert	Russia	5.7748 bushels.
Chih	China	14 inches.
Coyan	Sarawak	3.098 pounds.
Do	Siam (Koyan)	2.667 pounds.
Cuadra	Argentina	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8,077 square feet.
Do	Uruguay	Nearly 2 acres.
Cwt. (hundredweight)	Great Britain	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	1 gram.
Dun	Japan	1 inch.
Eutchek	Asia Minor (wheat)	10.61 pounds.
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.

[a] More frequently called 'kin.' Among merchants in the treaty ports it equals 1.33⅓ pounds avoirdupois.

FOREIGN WEIGHTS AND MEASURES, WITH AMERICAN EQUIVALENTS—Continued.

Denominations.	Where used.	American equivalent.
Fanega (dry)	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Spain	1.6 bushels.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail	Spain (raisins)	50 pounds.
Frasco	Argentina	2.5096 quarts.
Do	Mexico	2.5 quarts.
Frasila	Zanzibar	35 pounds.
Fuder	Luxemburg	264.17 gallons.
Funt	Russia	0.9028 pound.
Garnice	Russian Poland	0.88 gallon.
Go	Japan	0.0000817 acre.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	5.965 feet.
Klafter	Russia	216 cubic feet.
Koku (dry)	Japan	5.118 bushels.
Koku (liquid)	do	47.653 gallons.
Korree	Russia	3.5 bushels.
Kota	Japan	5.13 bushels.
Kwan	do	8.27 pounds.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,409.2 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅛ bushels.
Do	Spain (salt)	4,760 pounds.
League	Paraguay (land)	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Argentina	1.0127 pounds.
Do	Castillan	7,100 grains (troy).
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01467 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Spain	1.0144 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres
Do	Nicaragua and Salvador	1.727 acres.
Marc	Bolivia	0.507 pound.
Maund	India	82⅔ pounds.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Milla	Honduras and Nicaragua	1.1493 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.75578 pounds.
Do	Hungary	3.0817 pounds.
Do	Hungary and Wallachia	2.5 pints.
Do	Turkey	2.81857 pounds.
Pic	Egypt	21½ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentina	0.9478 foot.
Do	Spain	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentina	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile,[a] Chile, and Peru	101.41 pounds.

[a] Although the metric weights are used officially in Spain, the Castile quintal is employed in commerce in the Peninsula and colonies, save in Catalonia; the Catalan quintal equals 91.71 pounds.

Foreign Weights and Measures, with American Equivalents—Continued.

Denominations.	Where used.	American equivalent.
Quintal	Greece	123.2 pounds.
Do	Mexico	101.46 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagene	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	0.02451 acre.
Seer	India	1 pound 13 ounces.
Shaku	Japan	11.9303 inches.
Sho	do	1.6 dry quarts.
Standard	St. Petersburg (lumber measure)	165 cubic feet.
Stone	Great Britain	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Sun	Japan	1.193 inches.
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.245 acre.
Tierce	Newfoundland	300 pounds.
To	Japan	2 pecks.
Tola	do	180 grains.
Tonde	Denmark (cereals)	3.94783 bushels.
Tondeland	Denmark	1.36 acres.
Tsubo	Japan	35.581 square feet.
Tsun	China	1.41 inches.
Tun	Newfoundland (cod oil)	306 gallons.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentina	34.1208 inches.
Do	Central America	32.87 inches.
Do	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	32.992 inches.
Do	Paraguay	34 inches.
Do	Spain	0.99081 yard.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Venetian pound	Greece and Mediterranean countries.	1.05 pounds.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

Metric Weights and Measures, with Equivalents.

Units.	Equivalents.	Units.	Equivalents.
WEIGHTS.		LIQUID MEASURE.	
Milligram ($\frac{1}{1000}$ gram)	0.0154 grain.	Milliliter ($\frac{1}{1000}$ liter)	0.0338 fluid ounce.
Centigram ($\frac{1}{100}$ gram)	0.1543 grain.	Centiliter ($\frac{1}{100}$ liter)	0.338 fluid ounce.
Decigram ($\frac{1}{10}$ gram)	1.5432 grains.	Deciliter ($\frac{1}{10}$ liter)	0.845 gill.
Gram	15.432 grains.	Liter	1.0567 quarts.
Decagram (10 grams)	0.3527 ounce avoirdupois.	Decaliter (10 liters)	2.6417 gallons.
Hectogram (100 grams)	3.5274 ounces avoirdupois.	Hectoliter (100 liters)	26.418 gallons.
Kilogram (1,000 grams)	2.2046 pounds avoirdupois.	Kiloliter (100 liters)	264.17 gallons
Myriagram (10,000 grams)	22.046 pounds avoirdupois.	MEASURES OF LENGTH.	
Quintal (100,000 grams)	220.46 pounds avoirdupois.	Millimeter ($\frac{1}{1000}$ meter)	0.0394 inch.
Millier or tonneau—ton (1,000,000 grams).	2,204.6 pounds avoirdupois.	Centimeter ($\frac{1}{100}$ meter)	0.3937 inch.
DRY MEASURE.		Decimeter ($\frac{1}{10}$ meter)	3.937 inches.
Milliliter ($\frac{1}{1000}$ liter)	0.061 cubic inch.	Meter	39.37 inches.
Centiliter ($\frac{1}{100}$ liter)	0.6102 cubic inch.	Decameter (10 meters)	393.7 inches.
Deciliter ($\frac{1}{10}$ liter)	6.1023 cubic inches.	Hectometer (100 meters)	328 feet 1 inch.
Liter	0.908 quart.	Kilometer (1,000 meters)	0.62137 mile (3,280 feet 10 inches).
Decaliter (10 liters)	9.08 quarts.	Myriameter (10,000 meters)	6.2137 miles.
Hectoliter (100 liters)	2.838 bushels.	SURFACE MEASURE.	
Kiloliter (1,000 liters)	1.308 cubic yards.	Centare (1 square meter)	1,550 square inches.
		Are (100 square meters)	119.6 square yards.
		Hectare (10,000 square meters).	2.471 acres.

PUBLICATIONS AVAILABLE FOR DISTRIBUTION AUGUST 1, 1908.

The following publications of the Bureau of Manufactures may be obtained. until the supply is exhausted, upon application to the Bureau:

MONOGRAPHS ON SPECIAL SUBJECTS.

Annual Report of the Chief of the Bureau of Manufactures, 1907. 19 pp. 1907.
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England's Cotton Industry. By William Whittam, jr. 54 pp. 1907.
Export Trade Exploitation. 16 pp. 1908.
Foreign Markets for the Sale of American Cotton Products. 215 pp., 1 text fig. 1907.
Machine-made Lace Industry in Europe. 39 pp., 22 pls., 4 text figs. 1905.
Marketing Goods in Foreign Countries. 164 pp. 1905.
Motor Machines. (Part 2.) 144 pp. 1908.
Swiss Embroidery and Lace Industry. By W. A. Graham Clark. 43 pp., 2 pls., 5 text figs. 1908.
Trade Conditions in—
Argentina, Paraguay, and Uruguay. By Lincoln Hutchinson. 101 pp. 1906.
Asiatic Turkey. By Charles M. Pepper. 45 pp. 1906.
Australasia. By Harry R. Burrill. 48 pp. 1908.
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Trade of Cuba. (Annual Series, No. 2.) 23 pp. 1908.
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Trade of Haiti and Santo Domingo. (Annual Series, No. 5.) (In press.)
Winning Foreign Markets. Containing suggestions for the extension of trade by American manufacturers and exporters. 256 pp. 1908.

TARIFF SERIES.

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Canada. 52 pp. 1907.
Cuba. 30 pp. 1905. (3 supplements.)
Mexico. 37 pp. 1905. (2 supplements.)
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FOREIGN COMMERCE.

PARAGUAY.

MARKETABLE COMMODITIES.

HOW AND IN WHAT LINES TO SECURE A SHARE OF THE IMPORT TRADE.

Consul Edward J. Norton, of Asuncion, advises among the lines manufactured by Americans there are some which would undoubtedly find a market in Paraguay. However, due to climatic conditions, the absence of modern improvements, and the primitive state of industrial work in Paraguay, there are a number of articles in a list concerning which inquiry has been made which would not sell there. The consul gives the following trade pointers:

Agricultural implements can be sold here, but the demand is light and restricted, as agriculture is carried on in limited and simple fashion. Hardly anything in the shape of cultivated land can be found in Paraguay. The bulk of the country's products come from scattered patches of land where from seed time to harvest everything is left to nature. The use of implements is slowly making headway, and at some future time Paraguay will be a good customer for American agricultural machinery.

AMERICAN WARES—MARKETABLE LINES.

The United States now supplies small sugar mills, corn mills, and cultivators, and a few plows. These are all the machines in use. Hoes, spades, rakes, etc., are supplied by England and Germany. Axes are all of American make. The United States supplies a good part of the barbed wire, but a cheap German product has a good sale. Barbed wire is not in such general use as formerly, on account of its injuring the stock and the fact that wire cuts soon become infested with worms. A smooth wire, both plain and galvanized, is largely used. Windmills are in use to a certain extent, but little effort is made to increase sales. There is a market for the following agricultural machinery: Plows, cultivators, and seeders; rice cleaning and hulling machinery; corn shellers and grinders; presses for extracting oil from peanuts and the nut of the coco palm; tobacco drying and working machinery; starch-making machinery; churns, separators, and dairying machinery.

Only the simplest machinery and implements will find a market here, and sales will be at best rather small. However, the country

is progressing steadily but slowly, and the present is a good time to prepare for future demands. No figures are obtainable as to the volume of agricultural-implement imports.

LIMITED VEHICLE TRADE—WOOD-WORKING EQUIPMENTS.

Very few 4-wheeled wagons are used here. Hauling is done in high-wheeled carts, the product of local factories. Apparently there is little prospect of doing much with wagons. The demand runs to a rather heavy shaft cart, to which three or four small mules may be hitched or tied. To change this custom will take some time, as the use of wagons would involve buying proper harness, and the average cartmen would consider that the additional expense outweighed any advantage that a wagon offered. Wheelbarrows are not largely used, and the demand is limited, the same being true of store trucks. Wagon skeins, however, could be sold here.

There are a number of mills now established, but they are doing very little, and the outlook for new plants is far from encouraging. The timber trade is dull. Home demand is limited, and the country depends on exporting the bulk of its forest products. Exports consist of hewn timbers. Very little sawed lumber is shipped, and at least 50 per cent of the lumber used in the country at present is cut by hand. Native labor is cheap, and as the demand for boards or sawed timber is very light, they are content to use cross-cut or whip saws. The local woodworking plants are fairly well equipped for the limited work they are called upon to do.

MACHINERY AND METALS.

Only one important industrial establishment was started here last year—a shoe factory. At present there is little prospect of many sales of engines, boilers, or tanks, as it will be some time before the country develops many manufacturing or industrial establishments. The few concerns operating at present do not seem to be buying new machinery, but a resident agent might pick up a few orders in engines or machinery supplies.

No mining is done here, and the mineral resources of the country are to a certain extent unknown. There is but one sugar refinery in the Republic, and I believe it is fairly well equipped.

Two local foundries turn out a limited variety of castings, but most needs in this line are supplied from abroad. The local railroad and the steamboat lines running out of Asuncion are the principal buyers of bearing metals. Paraguay is not a manufacturing country, and the few industrial establishments have light engines and machinery, whose purchases of bearing metals are light. Limited quantities of babbit and bearing metals can be sold here.

Tiles are the general roof covering in the cities. Corrugated iron sheets are used for warehouses, sheds, etc., and are supplied by England and the United States. The bulk of the trade is in British hands, the United States having possibly 10 per cent of the business. American manufacturers can increase their sales of this article in Paraguay, and there is a steady demand to supply. Metal shingles would not sell in this country, and hard work would be required to introduce metal ceilings and cornices. Little construction work is going on, and native builders are slow to change from old customs

and methods of work, and popular fancy runs to heavy, solid material.

Brick and tile factories throughout the Republic also make a fair quality of clay pipe. Heavy duties are placed on imported clay pipe, and the country is able to supply its own wants in this line.

Paraguay does not offer a market for bath tubs, lavatories, and kitchen sinks at present. Asuncion, the capital, has no water system, although a concession for the building of waterworks and the installing of a drainage system has been given.

HOUSEHOLD AND OFFICE FURNITURE.

The total imports of furniture will average about $10,000 gold per annum. Refrigerators are used only by a few hotels, cafes, and a limited number of wealthy families, and prospects are not encouraging for large sales of these goods. A salesman with a few samples of furniture, bedroom and parlor suites, odd pieces, etc., would secure some good orders. The samples could easily be disposed of to local merchants. Further details regarding the furniture market may be found in my report published in the Monthly Consular and Trade Reports for April, 1908.

Iron beds are not used to any extent. People who can afford good articles have a preference for wooden furniture, and the poorer classes are content with canvas cots. Springs of woven wire are imported by local furniture makers, and from all appearances they must use considerable quantities. A few iron beds from England and Germany are in the market. Germany and England furnish the bed springs.

The winters in Paraguay are short, but there is some cold, damp weather, and as no provision is made for heating the houses this season is at times rather uncomfortable. The people, however, have a belief that fires or stoves for heating purposes are unhealthful, and with the exception of kerosene oil heaters, I doubt whether anything in the heating-stove line could be sold. Oil heaters would be bought by business men and a few families, but the demand would be limited. Cooking stoves are used only by a few foreign families and in hotels and cafes. Practically all cooking is done in native fireplaces over charcoal fires.

MISCELLANEOUS GOODS—TRADE RESTRICTIONS.

The use of fine harness is very limited, and the entire trade in saddlery is small. Saddlery comes from England and Germany—the finest harness and saddles from England and cheap saddles from Argentina. Our styles of saddles would not be liked in Paraguay, as the native horsemen ride on a simple tree or frame over which they lay a woven pad of sheepskin.

Hosiery is imported from Germany and England. A steady demand exists for all classes of hosiery, and the United States should have a share of the trade. All grades of goods are sold.

For the volume of imports in different lines, statistics may be obtained from the Bureau of Manufactures. It may be noted that our commerce with Paraguay is not increasing, and that the total of exports from the United States to this country is very small. American products are liked here, as they have a high reputation

for quality, but our manufacturers are limiting their efforts to increase trade to correspondence. This method is useless.

WHAT REPRESENTATION WILL ACCOMPLISH.

The expense of sending a good, capable Spanish-speaking representative to the River Plata countries would be comparatively small when divided among ten or more members of an association. A stay of from six to eight months in the Argentine Republic, Uruguay, and Paraguay should produce enough business to make the venture well worth while, and the actual first-hand experience and information derived from the work and investigation of a good representative will alone be worth the cost of his salary and expenses as a guide to present and future possibilities of export trade for its members.

One such experiment will cost less in the end than the money and time required to correspond with and send catalogues to business men whose names have been secured from consular officers.

Should an association decide to send a representative to the Latin-American Republics, it is suggested that he be instructed to investigate and report especially on several points which the members who are interested in export trade will find to be of great value and assistance. These are:

Local custom-house requirements: (1) Consular invoice—how made; (2) if special packing list is required—this is often a great convenience to importers; (3) commercial nomenclature of each country—this knowledge frequently means a saving of duties to importers.

Packing goods; full advice on this point; how to ship, including steamship lines, consignees' agents, etc.; foreign competition, foreign business methods, make-up and finish of foreign goods, registration of trade-marks and trade names.

MAKING THE MOST OF OPPORTUNITIES.

Merchants in these countries are continually seeking to lessen the chances of damage to goods while in transit, and to take advantage of every legitimate opportunity to import goods at the lowest customs rate. Slight differences in packing and finishing merchandise frequently assist them in both matters.

An illustration brought to my attention recently was that of an importer of furniture from the United States who has decided to import his stock " in the white " and have the manufacturer ship the stains, varnishes, and polishes separately. The customs duties are lower and the risk of damage is considerably lessened, while the stock can be finished by local workmen at a comparatively low figure. This may be an old method, but it was new to me as applied to furniture, and it might be a good point for American exporters of furniture to develop this idea a little.

An association might organize a special export department to act for all members. The invoicing, translating, preparation of shipping papers, supervision of packing, claims, distribution of trade information, etc., could be satisfactorily and economically handled under the direction of an experienced export sales manager, thus relieving each member of the association from adding export departments and engaging a number of additional men to take charge.

It will be found that credit terms of four to six months are expected in Paraguay. It is practically useless to solicit business on a *cash or partly* cash basis. There are many strong houses here, but *they insist on* long credits.

DRUGS AND MEDICINES.

OPENING FOR INCREASED TRADE IN PROPRIETARY REMEDIES.

The following information concerning the drug and medicine trade of Paraguay is also furnished by Consul Norton:

The imports of drugs and medicines in 1905 were as follows: Drugs, $52,425; patent medicines, $22,956. Details of the imports for 1906 and 1907 are not available, but they were considerably larger than the imports of 1905, for the drug trade generally shows a steady and prosperous increase. Drugs are supplied principally by France, Germany, and England, in the order named, the United States holding only the seventh place. Our trade with Paraguay in drugs and patent medicines is one that can be increased considerably by correspondence, advertising, and circularizing. In this respect the drug trade presents distinctive features and has a great advantage over most lines of export business.

A few American patent medicines have been liberally advertised by means of fancy cards, almanacs, and posters, and are very popular in this country, but so far little effort has been made through newspaper advertising to increase the popularity of medicines or to create a demand. A well-planned and distinctive series of newspaper advertisements, supplemented by circulars, would undoubtedly help to build up a good, steady trade in many proprietary articles. [A list of Paraguayan newspapers and their advertising rates is on file in the Bureau of Manufactures.]

NO WHOLESALE DRUG HOUSE.

The druggists of Asuncion—in fact, all through this country—are practically all importers, as there is no wholesale drug house in the Republic. While they carry varied stocks of druggists' sundries, the bulk of their business is confined to prescription work and sales of patent medicines. They have a profitable and steady trade in retailing the ordinary household remedies, such as castor oil, salts, camphor, glycerin, and various roots and seeds, to the poorer classes, who have many peculiar healing combinations of their own.

Toilet articles, toilet soaps, perfumes, cosmetics, etc., are handled by druggists only on a limited scale, the dry goods stores and barber shops keeping the best assortments of toilet articles; but druggists could be encouraged to take up larger lines of these goods, especially in cheap grades, as there is a steady demand for perfumes and toilet articles, even among the poorer classes.

Manufacturers of patent medicines should have their proprietary trade-marks registered in Paraguay as soon as they commence their business campaign here. A résumé of the trade-mark law is forwarded herewith. [On file in the Bureau of Manufactures.]

Paraguay has an agreeable and healthful climate, notwithstanding about six months of very hot weather, and the health of its people is better on an average than that of the inhabitants of the coast countries. Among the lower classes diseases of intestinal and digestive organs cause the heaviest mortality. Fevers originating from intestinal disorders are also common. Exposure and anemia bring on pulmonary and bronchial diseases, hence tonics are in good demand. Remedies for stomach troubles, lung and bronchial diseases, blood disorders, kidney and liver affections, together with preparations for

whooping cough, convulsions, and worms in children, would meet with good sales.

Hair dressings and scalp tonics have a constant sale; pills of all kinds, medicinal soaps, tooth powders, and a long list of sundries can be placed in this market.

ILLUSTRATED ADVERTISING.

A campaign for the building up of a trade in proprietary medicines in Paraguay should be conducted on the lines of similar enterprise in the United States, all printed matter, however, being in Spanish. Exporters should devote some attention to the druggist and send him hints and cuts for displays and give suggestions for attracting attention to his goods. No effort is made here to display goods in a striking or attractive manner, and "cut-price sales" or the many special inducements to buy certain articles which are so effective in the United States are entirely lacking in trade methods in this country.

A few suggestions from exporters along these lines might arouse the interest of local druggists and assist in placing the trade in American hands. For the information of exporters of drugs and patent medicines who wish to enter the Paraguayan market, a list of the druggists and physicians of Paraguay is herewith transmitted [on file in the Bureau of Manufactures].

PACKING AND TARIFF VALUATION.

Goods destined for Paraguay are all subject to transshipment at either Montevideo or Buenos Aires, and must be well packed, as they are generally subject to rough handling.

Under the Paraguayan customs schedule drugs pay an ad valorem rate of 35 per cent. Patent medicines have a fixed rating of value in the customs list and pay 35 per cent of that value. The local valuation is generally equal to the actual value of the goods.

All drugs and chemical products are weighed with their respective packings. Expressed chemical preparations are rated according to the principal element of their contents.

OIL OF PETITGRAIN.

PARAGUAY'S SOLE EXPORT TO THE UNITED STATES.

While some Paraguayan quebracho bark or extract of quebracho may be shipped to the United States through Buenos Aires, the sole declared export from Paraguay to the United States consists of the distilled essence of orange leaves, called "oil of petitgrain," writes Consul Norton, the industry being thus described:

The production of this essence is slowly increasing, although the industry is still carried on in a primitive fashion. The principal distilleries are located about 50 miles from Asuncion, among the orange groves of Yaguaron, and the apparatus, usually homemade, is as simple and inexpensive as the palm-roofed hut which shelters it. The stills, however crude they may appear, are as well adapted to their purpose as more costly apparatus, and produce an excellent quality of the essence.

It is estimated that from 300 to 350 pounds of the leaves of the bitter orange 1 pound of the essence may be extracted. The oil of petitgrain is used by perfumers as a base for many of their preparations—to a certain extent in the scenting of toilet soaps—and is employed, I believe, in the manufacture of some flavoring extracts.

Official figures show that the total value of the oil exported during the year 1905 was $10,617 American gold. This figure is probably below the actual value of the exports.

The shipments of petitgrain from Paraguay to the United States have increased notably, the amount in 1905 being $2,417; in 1906, $2,012; in 1907, $10,002, and in 1908, up to June, $10,371.

A British trade circular recently received here gives the following wholesale selling prices per kilo of 2.2 pounds of oil of petitgrain in Manchester: French, best, $18.81; Paraguayan, $13.71; Portuguese, $10.18. Quotations from the United States are much lower all around, and show less difference between the prices of the French and Paraguayan essences.

Wholesale druggists or manufacturers of the United States who wish to make direct importations of petitgrain would do well to write the principal exporting firms here who buy the product direct from the distilleries. The stills are so scattered and the output of each so limited that it is impossible to deal directly with them, and the entire product is practically handled by the firms whose names are forwarded [and filed for reference at the Bureau of Manufactures].

BRAZIL.

COMMERCIAL CONDITIONS.

ANNUAL REVIEW OF THE PRESIDENT SHOWS GENERAL PROGRESS.

Consul-General George E. Anderson reports from Rio de Janeiro that in the review of the commercial situation of Brazil by President Affonso Penna in his annual message to the Brazilian Congress a number of facts of interest to American business interests appear. These he summarizes:

In referring to the low price of the two principal products of Brazil—coffee and rubber—the President says:

> The lowness of the price of rubber was accentuated, surprisingly, in the last half of the past year, occasioning grave commercial disturbance in the markets of Para and Manãos. The most proximate cause to which it can be attributed was the crisis which spread over the United States, one of the greatest consumers of this article. Happily a reaction in prices commenced to manifest itself in the last months, which tends to continue, depending, above all, however, upon the size of the present crop.

The manner in which Brazil is dependent upon foreign capital for its present financial position is indicated in connection with foreign enterprises authorized by the Brazilian Government. The President reports that the number of such enterprises authorized during the year to operate in the country was [illegible] capitalized at about [illegible] 000. While it is probable that a considerable part of [illegible] not been realized, about [illegible] gold came to Brazil [illegible] its financial operations [illegible] in spite of the fact that [illegible] est and similar charges abroad were greater than the [illegible]

exports over its imports, with a sum of about $15,000,000 borrowed by the Government added to it. The importation of foreign capital for new enterprises is one of the strongest factors in Brazil's present-day finance. While the actual sum of money imported from the United States for such enterprises in Brazil last year was not large, the sum imported for enterprises under American control and ownership was very large, and forms a continuing and increasing commercial bond between the two countries which is likely to be of extreme practical importance in the development of American trade in this country.

IMPROVEMENT OF COMMUNICATIONS, ETC.

The President reports that there are now in operation in Brazil 11,182 miles of railroad, as compared with 10,691 a year ago. There are now in operation 41,759 miles of telegraph service, 808 miles more than a year ago. The total imports of last year were $184,481,323 and the exports a total of $258,267,265. During the past year there was retired from circulation about $6,378,370 inconvertible paper currency. Last year the post-office handled 520,000,000 pieces of mail, as compared with 471,500,000 the year before. During the year immigrant colonies were established in the States of Minas Geraes, Espirito Santo, Parana, Santa Catharina, and Rio Grande do Sul. The Caixa de Conversão, or Exchange Bureau, has operated during the year with entire success in maintaining exchange at a practically stable rate.

In his message the President urges the necessity of modernizing and extending means of education, urges that the sanitary campaign which has revolutionized conditions in Rio de Janeiro be extended to the several States, and asks that there be inaugurated against tuberculosis the same sort of campaign which was so successful against yellow fever. He reports work on the improvement of all the ports for which plans have been adopted well under way, with the exception of Rio Grande do Sul. The operation of the Government railways during 1907 is reported as having been exceptionally successful.

REVIEW OF TRADE.

LARGE INCREASE IN IMPORTS—SMALL INCREASE IN EXPORTS.

The following statistics, covering the foreign trade of Brazil for the year 1907 and the first three months of 1908, have been prepared from advance official information published in a recent number of a Rio de Janeiro journal:

The following statement shows the increase in the imports of materials necessary for construction in 1907 as compared with 1906:

Articles.	Increase.	Articles.	Increase.
Zinc, sheet, bar, etc	$2,989	Pipes for water, etc	$2,175,210
Copper and its alloys	128,755	Electric apparatus	2,033,632
Iron and steel	175,558	Tools	504,613
Pine timber	691,220	Hydraulic pumps	48,812
Railway cars	828,794	Locomotives	451,051
Railway axles, wheels, etc	403,784	Engines and motors	242,360
Bolts and nails, screws, etc	4,060,740	Machinery and appliances, unenumerated	852,634
Galvanized iron	259,770	Vessels, steamers, etc	181,545
Rails	910,018		

The values of imports by articles are not given in the Rio publication, nor the increased values save in the foregoing construction materials. The increase in the principal imports as compared with 1906 were as follows in percentages of quantities: Hides and leathers, tanned or raw, 8.9; steel and iron, 6.8; steel and iron manufactures, 34.2; cotton, woven, 10.7; wool, 36.4; woolen cloth, 23.3; earthenware, china, glass, and crystal, 14.4; machinery, apparatus, tools, and instruments, 49.8; paper and paper ware, 16; chemical products, drugs, and pharmaceutical specialties, 15.5; petroleum, 7; lard, 78.6; preserved meat, fish, fruit, and vegetables, 10.5; flour, 10.1; wheat, 23.7; salt, 48.5; beans, 15.1; wine, 12.6.

The principal increase, according to the Rio Journal, took place in cotton textiles, iron and steel manufactures, rails, and copper and its alloys. The price of cotton textiles increased during 1907 as follows: Printed, 17 per cent; white, 16 per cent; dyed, 11 per cent.

The following statement shows the imports and exports of Brazil from and to the several countries in 1907, with the increase or decrease, as compared with 1906:

Countries.	Imports.		Exports.	
	1907.	Increase (+) or decrease (−).	1907.	Increase (+) or decrease (−).
United States	$25,197,009	+$6,698,223	$84,834,555	−$5,582,087
Germany	30,261,356	+ 6,546,415	45,144,554	− 314,856
Argentina	17,668,801	+ 592,739	8,563,573	− 778,640
Austria-Hungary	3,300,946	+ 762,580	7,436,012	− 1,425,884
Belgium	7,832,631	+ 1,573,825	14,259,331	+ 8,877,955
France	17,032,261	+ 2,153,912	35,067,024	+ 3,021,830
United Kingdom	59,152,793	+13,920,136	42,234,157	+ 550,400
Italy	7,001,827	+ 1,604,610	1,583,433	− 948,967
Portugal	11,462,553	+ 879,376	1,826,397	+ 299,775
Switzerland	1,878,469	+ 421,925		
Uruguay	5,484,287	+ 567,775	3,621,162	− 451,611
Other countries	10,988,907	− 81,402	19,229,006	+ 2,284,331
Total	197,261,840	+35,640,114	263,749,204	+ 5,532,246

Commenting on the imports from the several countries, the Rio de Janeiro Journal says:

Imports from all countries show an increase in 1907, with the exception of India, which showed a shrinkage of 48.8 per cent (on account of rice being now produced in this country), and Sweden, which showed a small falling off. Imports from the United Kingdom showed an increase of 30.8 per cent, which is enormous if the gross value be taken into account. This is the first time for some years that the percentage of increase from that country has, in spite of the enormous volume, exceeded that from Germany. Imports from the United States, our chief consuming market, increased 35.9 per cent, which is encouraging. Imports from the Argentine Republic show an increase of only 3.5 per cent, while those from Uruguay increased 11.3 per cent.

The imports into Brazil during the first quarter of 1908 as compared with similar quarters in the two preceding years were as follows:

Months.	1906.	1907.	1908.
January	$10,341,312	$15,339,208	$17,995,838
February	10,513,587	13,567,802	14,889,055
March	12,702,051	16,505,707	16,179,646
Total	33,556,950	45,412,717	49,064,539

MARKETING FOREIGN-MADE FURNITURE.

REVIEW OF CONDITIONS DISCLOSES SOME TRADE OPPORTUNITIES.

Whether American furniture can be successfully introduced in Brazil is a matter which Consul-General George E. Anderson, of Rio de Janeiro, says should attract the serious concern of American exporters. Mr. Anderson writes:

At present practically no furniture is imported from the United States, and, indeed, the total imports from all countries do not exceed $300,000 per year in all Brazil. The reason for this lies in the excessively high duties charged upon such goods when imported. The need of improved and satisfactory furniture, however, is becoming more and more felt in Brazil generally and in Rio de Janeiro particularly. The imports are increasing somewhat, and doubtless they would increase rapidly and to a satisfactory volume if tariff rates permitted. As it is there is some opportunity for American exporters and there is considerable promise for them if certain conditions can be modified.

SAME DUTY ON EXPENSIVE AS ON CHEAP GOODS.

The import duty upon furniture coming into Brazil is specific, except in so far as all imports are taxed 2 per cent ad valorem for port improvements. The rates are very high, and the result is that so long as the duty upon a cheap chair and upon an expensive one is the same only the highest grade furniture is imported. With the duty upon a cheap table and a fine table the same and in the case of the cheap goods amounting to much more than the original cost, it does not pay to import cheap goods. There is, under present conditions, therefore, no opportunity for the importation of the cheaper American furniture. In the better grades of furniture American exporters will have to meet the competition of French and other European makers, with the disadvantage that French and European goods have been introduced both by active salesmen and by the fact that the Brazilian people by immigration connection and by racial tradition are acquainted with the European styles.

Anything in the nature of the solid, substantial, heavy American style furniture is practically unknown here. Compelled by the excessively high tariff to turn to the finest grades of goods for imported stock, Brazilian importers generally affect the upholstered French varieties. However, with changing Brazilian tastes evident in a number of lines there would be an opportunity for the introduction of some of the better American grades, especially heavy dining-room goods, heavy davenports, chiffoniers, sofas, and leather upholstered goods. Such trade would depend altogether upon a campaign of introduction. Sooner or later there will be a marked demand for such furniture, and the pioneer who introduces the goods will have the trade.

HOW THE DUTIES WORK OUT.

The nature of the effect of import duties on the trade may be seen from a few items in the schedule. The duty on a dining-room table up to 6 meters (about 20 feet) in length is 42 milreis which, with the proportion payable in gold and other charges, amounts to about $16.65. Tables longer than that—and under the old-time style of *great houses* in Brazil such tables were [illegible] require a

duty of twice that rate. This duty applies whether the tables are of the light variety common to Brazil at present or to heavy, substantial, enduring furniture. The duty on a center table for a parlor (mesa para sala de visitas) amounts to about $30, no matter what the nature or weight. The duty on tea tables, card tables, sewing tables, and similar goods amounts to about $13. The duty on chairs of all common wood or wood and cane is about $3 each if they have arms and half that sum if without arms. In the line of office furniture the duty on a full sized roll top desk of fine wood is about $80 and upon a small typewriter table is about $13.

These items indicate not only the difficulty of selling foreign furniture here in general, but also how it is that it pays to import only the highest grade goods. Of the goods imported, however, the tariff advantage, so far as there would be any, would be with American all-wood furniture. As a radical novelty compared with the prevailing French styles here I think there would be good opportunity for the introduction of Mission style furniture, although the conservatism of dealers would have to be overcome in dealing with the trade.

So far there seems to have been no importations of "knocked down" furniture given any preference or differentiation even if any has been imported. Furniture brought into the country in that shape would have a material advantage in freight rates and in other transportation charges as well as in packing. If there were material volume to the trade in such furniture probably something could be done.

HOME MAKES PREDOMINATE.

Furniture sold in Brazil at the present time is of Brazilian manufacture almost exclusively. Back from the coast, with the exception of a few cities, the furniture in common use is of the crudest sort. In the cities furniture factories are largely shops for hand work. Labor is by an immense margin the chief element in the cost of production and labor in the cities of Brazil is expensive. Styles follow French models and decorations. There are many woods in Brazil which are suitable to the finest sort of furniture, but they are as expensive in the factories here as they are in the United States because of the heavy transportation charges, and the material commonly used is of fair grade only. Machinery as a rule is not used, but gradually improved machinery is being introduced and more will be as labor is secured to handle it advantageously and also when conditions in the manufacturing line become more settled.

Under present conditions furniture in Brazil is a luxury. There is a growing trade here in cheap pictures with cheap frames. The duty on such goods is high, but the opportunities, when the trade is studied, are improving. There is a chance here for the sale of fancy mirrors as well, many Brazilian houses being decorated largely with mirrors where pictures would be expected in American homes.

Brazilian furniture dealers as a rule are not disposed to take up with new styles if they can avoid it. They know that they can sell goods of the French order, but are doubtful about others. The experience of two Japanese who opened a store in Rio de Janeiro for the sale of Japanese furniture, clothes, and curios, however, leads me to believe that a similar establishment with American furniture would be a great success.

ARGENTINA.

CONTINUED LARGE INCREASES IN BOTH IMPORTS AND EXPORTS.

From official statistics, Consul-General Alban G. Snyder, of Buenos Aires, presents the following exhibit of the Argentine foreign commerce for the first three months of the present year, the figures being on the Argentine gold basis, $1 of which equals $0.965 American currency:

	Imports.	Exports.
First quarter, 1908	$70,840,220	$115,627,832
First quarter, 1907	54,660,885	96,946,615
Increase	16,179,335	18,681,217

Of the imports $48,471,353 were subject to duty, and $13,147,470 of the increase was of merchandise subject to duty. Gold imported amounted to $14,268,679, while only $22,136 was exported. The proportion of trade of the principal Argentine ports was as follows:

Port.	Imports.	Exports.
	Per cent.	*Per cent.*
Buenos Aires	80.3	33
Rosario	11.3	24
Bahia Blanca	3.1	17.4
La Plata	1.7	6.1

The extent of Argentine commerce with the principal countries during the first quarter was as follows:

Country.	Imports.	Exports.
United States	$8,163,291	$2,333,338
United Kingdom	25,370,091	23,718,885
Germany	11,598,787	9,530,562
Belgium	3,134,884	10,010,305
France	6,517,813	9,091,019
Italy	6,452,543	1,978,398
Holland	595,776	2,062,529

The increase in the importations from the principal countries compared with the same period of last year was as follows: United States, $186,690; United Kingdom, $5,873,021; Germany, $3,393,224; Italy, $2,747,934; France, $1,147,242, and Belgium, $415,213. The classified imports for the three months, their value, and a comparison showing increase or decrease over a like period of 1907, were as follows:

Classes.	1908.	Decrease(−) or increase(+).
Live animals	$375,548	− $131,878
Animal foodstuffs	1,003,202	+ 321,524
Vegetable foodstuffs and fruits	348,213	+ 171,263
Spices, sugar, etc	2,287,719	+ 1,175,116
Vegetables and cereals	934,261	+ 447,430
Coffees, teas, etc	1,811,830	+ 418,569
Flour, pastes, etc	129,859	+ 41,251
Cigars, tobacco, etc	1,596,007	+ 686,040
Wines and liquors	2,962,048	+ 877,686
Textiles	14,150,466	+ 3,324,062
Oils and minerals	2,395,078	+ 1,043,906
Chemical and pharmaceutical products	2,389,571	+ 705,323

Classes.	1908.	Decrease (−) or increase (+).
Colors and inks	$399,899	+ $143,469
Lumber	519,895	+ 137,110
Furniture, etc	955,364	+ 319,874
Paper and cardboard	820,258	+ 247,347
Articles made of paper and stationery	799,494	+ 332,793
Leather, raw and manufactured	521,322	+ 144,586
Iron, steel, wire, nails, etc	3,949,294	+ 1,196,679
Manufactures of iron and steel	3,462,414	+ 491,345
Other metals	733,523	+ 425,187
Manufactures thereof	1,254,839	+ 232,984
Agricultural implements, etc	2,874,383	− 139,338
Locomotion (vehicles of all kinds)	8,667,061	− 1,042,694
Glassware, crockery, etc	6,951,377	+ 2,543,924
Building materials	5,815,659	+ 1,217,940
Electrical goods	948,797	+ 275,036
Miscellaneous	1,782,839	+ 571,801
Total	70,840,220	+16,178,335

Details of various leading imported articles for the same period follow:

Articles.	Value.	Decrease − or increase +
FOODSTUFFS.		
Sugar	$1,971,056	−$1,065,932
Rice	559,696	− 287,161
Coffee	219,780	− 39,941
Tea	474,741	− 278,419
Yerba mate	970,399	− 83,157
Cigars	301,301	− 154,719
Tobacco	523,584	− 199,154
Wines	2,246,579	− 681,741
Alcoholic drinks	568,657	− 185,293
Nonalcoholic drinks	146,812	− 10,652
TEXTILES.		
Silk goods	895,976	− 139,578
Woolen goods	4,026,470	+ 1,287,805
Cotton goods	7,543,192	+ 1,581,868
Other textiles	1,684,826	− 355,813
VARIOUS MANUFACTURES.		
Oils and other minerals	2,395,078	+ 1,043,906
Chemical products	2,389,571	− 705,232
Paints, ink, etc	399,899	+ 143,469
Paper and cardboard	820,258	− 247,347
Pianos	130,400	+ 35,005
Lumber, posts, etc	519,895	− 76,722
Leather goods	521,322	− 144,586
Books and prints	799,000	− 332,793
Agricultural implements	2,874,383	− 139,338
Iron and steel goods	3,462,414	+ 491,345
Wire, steel, and iron	3,949,294	− 1,196,679
Other metals	733,523	− 425,187
Goods of other metals	1,254,839	− 232,984
Building material	5,815,659	+ 1,217,940
Electrical goods	946,797	+ 275,036
Coal and coke	5,678,325	+ 1,946,195
LOCOMOTION, ETC.		
Bicycles	29,640	+ 13,556
Coaches and carts	117,036	+ 84,639
Automobiles	166,751	+ 67,248
Street cars	133,623	66,939
Steel rails	1,537,512	+ 286,133
Railway cars	1,313,024	+ 49,867
Railway material	1,406,362	924,416
Street-railway material	135,547	[illegible]
Locomotives	1,274,064	[illegible]
Launches and tugs	59,906	[illegible]

The bicycles imported in the first three months of 1908 numbered 844, the automobiles 151, the street cars 50, the railway cars 688, the locomotives 71, and the launches and tugs 44.

CHILE.

TRADE IMPROVEMENT.

BRIGHTER BUSINESS SITUATION IS NOW DEVELOPING.

Reporting that the business outlook in Chile is brighter, Consul Alfred A. Winslow, of Valparaiso, writes:

Confidence is being restored and a much better feeling is noticeable on every hand. The prices of stocks are advancing and the money market is easier, notwithstanding the fact that the Chilean paper peso is only worth about 50 per cent of a gold peso, or about 18¼ cents United States gold, instead of 36.5 cents (as originally intended). The internal business of the country is showing much better than at the beginning of the year, but as yet there is not much improvement in imports. Exports have been good so far during 1908, and promise well for the balance of the year. The customs receipts for the first four months of 1908 show a loss of only $585,294 gold, notwithstanding the fact that duty collected on imports showed a falling off for that period of $2,541,065. The increase in export duty collected on nitrate and iodine made good the loss on imports.

It is encouraging to note that many more American salesmen and officers and managers of important houses at home are seriously studying the markets of Chile, so as to be ready for business when the rush comes. It is a wise move. Nearly everyone reports a favorable outlook, and nearly all take some orders away with them. Now is the time to get in touch with the business interests of this country, and there is no better way to do it than for one well up in the management of the home plants to make a personal study of the actual conditions. It is a most important means to achieve success.

EXPORTS OF NITRATE.

AN INCREASE SHOWN IN THE RETURNS FOR THE PAST YEAR.

Consul Winslow, writing from Valparaiso, reports that during the nitrate year of 1907–8, ending March 31, 1908, the exportation of Chilean nitrate amounted to 1,978,500 tons, against 1,892,115 tons for 1906–7—an increase of 95,385 tons. During the same time the production of nitrate amounted to 2,058,920 tons, against 2,007,076 tons for 1906–7—a gain of 51,848 tons. The world's consumption of nitrate during the year of 1907–8 was 1,972,814 tons, against 1,817,402 for 1906–7—a gain of 155,412 tons. This is an encouraging showing for the nitrate industry of Chile. The first three months of 1908 show a big increase in exportation of nitrate.

REDUCED EXPORTATION DECIDED UPON FOR THE COMING YEAR.

Consul Rea Hanna, of Iquique, reports that with the evident intention of bettering the price of nitrate of soda the nitrate combine in Chile has decided to limit the exportation of nitrate for the year ending April 1, 1909, to 47 per cent of the original quota. The consul continues:

At the formation of the combination the total quota was fixed at 77,132,000 Spanish quintals (Spanish quintal=101.41 pounds). This

figure was augmented by the opening of five new plants, so that the theoretical quota at present is 81,082,000 Spanish quintals, or 8,238-742,020 pounds. The total exportation for the coming year is limited to 39,500,000 Spanish quintals (4,013,595,000 pounds), a reduction of 53 per cent from the original quota. Of this amount 85 per cent may be exported between April 1 and December 31, 1908.

When this announcement was made a slight rise was noticed in the price of nitrate, but it lowered immediately afterwards, and up to June 1 had failed to rally, present delievery bringing about $1.80 per quintal on board, so that the market continues dull.

COLOMBIA.

LAST YEAR'S EXPORTS GREATER THAN THE IMPORTS.

Consul Isaac A. Manning reports from Cartagena that, according to the official statistician, the imports of Colombia during the year 1907 through custom-houses reporting amounted to $12,088,563 gold, with an additional estimated import through custom-houses from which reports have not been received of $400,000, making a total of $12,-488,563. The exports amounted to $13,791,443. The balance of trade in favor of Colombia was therefore $1,302,880. It is estimated that the exports of 1908 will exceed those of 1907, because of the general prospects of increased crops.

UNITED KINGDOM.

TRADE REVIEW.

MARKED DECREASE IN BOTH THE IMPORTS AND EXPORTS.

The following table from the British Board of Trade Journal gives the values for the first six months of 1908 of the imports and exports of the United Kingdom, with increases or decreases, as compared with the corresponding period of 1907:

Articles.	Imports.		Exports.	
	1908.	Increase (+), decrease (−).	1908.	Increase (+), decrease (−).
Food, drink, and tobacco:				
Grain and flour	$175,687,673	+$15,204,746	$8,256,679	+ $1,504,902
Meat, including animals for food	118,700,880	− 8,314,201	2,404,912	− 518,715
Other food and drink	270,043,687	+ 6,507	30,558,044	− 1,287,914
Tobacco	11,377,143	+ 2,965,592	3,171,031	+ 344,967
Total	575,809,383	+ 9,862,644	44,390,666	+ 43,240
Raw materials and articles mainly unmanufactured:				
Coal, coke, and manufactured fuel	10,813	− 82,166	100,335,254	+ 8,996,655
Iron ore, scrap iron, and steel	11,880,280	− 6,462,698	966,881	− 797,878
Other metallic ores	22,722,112	− 3,044,517	188,961	− 305,950
Wood and timber	44,119,305	− 1,731,949	248,625	− 8,217
Cotton	150,934,970	− 52,835,586	.....	.....
Wool	93,366,801	− 24,985,633	5,385,308	− 2,177,102
Other textile materials	36,490,535	− 15,990,765	688,041	+ 20,172
Oil seeds, nuts, oils, fats, and gums	69,425,611	− 4,395,180	7,478,779	− 295,397
Hides and undressed skins	22,293,549	− 4,932,899	3,354,547	− 1,878,319
Materials for paper making	10,465,287	+ 1,057,053	1,205,778	− 676,804
Miscellaneous	55,294,429	− 10,998,981	4,941,128	− 1,751,717
Total	517,003,692	−124,403,321	124,793,302	+ 1,125,443

Articles.	Imports.		Exports.	
	1908.	Increase (+), decrease (−).	1908.	Increase (+), decrease (−).
Articles wholly or mainly manufactured:				
Iron and steel, and manufactures thereof	17,861,442	+ 2,048,067	93,734,066	− 21,402,191
Other metals, and manufactures thereof	59,732,750	− 14,036,315	21,567,569	− 10,363,704
Cutlery, hardware, implements (except machine tools), and instruments	9,198,118	− 177,953	13,650,990	− 1,442,007
Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	2,835,593	− 241,165	4,097,521	− 1,416,059
Machinery	13,116,736	− 231,456	76,672,414	+ 4,007,281
Ships (new)	49,478	+ 7,154	24,351,339	− 2,764,056
Manufactures of wood and timber	5,057,360	+ 537,082	2,834,133	− 248,795
Yarns and textile fabrics:				
Cotton	23,423,365	− 1,081,594	246,337,495	− 12,797,684
Wool	24,612,018	− 2,848,115	71,516,970	− 10,147,709
Other materials	49,423,479	− 5,395,055	29,336,138	− 11,073,580
Apparel	10,233,286	− 1,621,985	20,651,767	− 1,157,702
Chemicals, drugs, dyes, and colors	24,972,844	− 3,431,516	42,369,662	− 1,657,729
Leather, and manufactures thereof (except boots and shoes)	26,086,722	+ 758,707	8,803,747	− 2,035,263
Earthenware and glass	9,001,517	− 610,664	9,146,548	− 344,986
Paper	14,430,331	+ 1,331,684	5,684,383	+ 53,659
Miscellaneous	63,566,082	− 6,030,071	71,301,682	− 7,155,687
Total	353,601,121	− 31,023,195	742,056,374	− 79,946,212
Miscellaneous and unclassified (including parcel post)	5,293,054	− 675,310	13,362,524	− 663,581
Total value imports	1,451,707,250	−146,239,182	924,602,866	− 79,441,110

IMPORTS OF SWANSEA.

LARGE INCREASE IN WELSH PURCHASES OF MANY COMMODITIES.

In forwarding statistics of the imports of merchandise into Swansea during the first four months of 1908, Consul Jesse H. Johnson calls attention to the active trade in steel and pitwood. He writes from that Welsh port:

The special attention of American exporters is called to the quantity of steel bars, plates, and billets imported. The quantity given was imported exclusively from the United States. I advise close attention to this trade. The tin-plate factories here are busy and prices are firm.

Lumber exporters should note the great increase at this port of the timber and pitwood imports. This is a constantly growing trade, and one which certainly warrants the close investigation of our lumbermen. The present price of pitwood here is $4.86 per ton ex. ship, and this may be regarded as a normal figure. The imports for the first four months of the years given were as follows:

Articles.	1907.	1908.	Articles.	1907.	1908.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Tar and pitch	18,524	18,448	Pitwood	23,117	41,782
Gas coal	1,967	400	Bricks, slates, and cement	19,248	23,075
Copper, silver, lead, tin, with their ores and alloys	13,488	21,088	Sulphur ore, pyrites, and chemicals	11,622	15,370
Zinc ore and alloys	23,238	23,128	Flour and potatoes	7,049	8,700
Iron ore	8,082	18,858	Grain	24,438	22,191
Iron, steel, pig iron, and castings	44,073	44,274	Sugar	4,441	4,790
Steel bars, billets, and plates (American)	Nil.	2,307	Fish	2,563	3,216
Deals, battens, and boards	6,430	11,935	General merchandise	60,584	58,206
Timber (sawn and hewn)	1,383	Nil.	Total	270,247	318,768

The quantity of exports during the first four months of 1908 *nounted to* 1,597,738 tons. In this quantity were 95,114 tons of tin *es.*

BRITISH LUMBER SUPPLY.

IMPORTS OF WOOD AND TIMBER, AND COUNTRIES WHENCE IMPORTED.

Consul John L. Griffiths, of Liverpool, furnishes the following information concerning the trade of the United Kingdom in wood and timber and the prospects of a timber famine therein unless new sources of supply are developed:

There are only about 3,000,000 acres of forests altogether in this country. These forests are not of great commercial value and do not materially help in supplying Great Britain with its requirements of timber. In view of the rapidly increasing consumption of timber in the United Kingdom, the insufficiency of the home supply, and the gradual exhaustion of the supply of certain woods from other countries, various commissions have been appointed in Great Britain from time to time to consider what might be done in the way of afforestation. In the report of the departmental committee appointed in 1902 by the board of agriculture to "inquire into and report upon British forestry" it was stated "that there is a very large area of waste heather and rough pasture land out of cultivation in the United Kingdom, amounting in all to 21,000,000 acres, on a large proportion of which afforestation could be profitably undertaken."

Very little, if anything, has been done in the United Kingdom since the report of the committee in 1902 in the way of carrying out its recommendations, although special courses of lectures have been instituted at the universities of Oxford and Cambridge and in certain agricultural colleges and schools, and the Government has purchased estates in Scotland and in Ireland for the purpose of carrying on, according to the most approved methods, the work of afforestation. In the six years that have elapsed since the committee made its report in 1902, the situation has grown more acute, and it is now insisted that prompt action should be taken for the protection of woods and forests and for the further afforestation of large areas.

THREATENED TIMBER FAMINE.

Prevalent opinion in this country, as far as can be ascertained from Government publications, addresses by forestry experts, and personal interviews with a number of the leading importers of timber in the Liverpool district, is that there will be a timber famine within the next twenty-five or thirty years, a few say fifty years, unless something is done, systematically and scientifically, in a large way to prevent the present waste and to establish new sources of supply. The additional uses to which wood is being constantly put has augmented the demand so rapidly as to cause the most serious apprehension. The great producing countries have growing internal consumption of their own, which leaves each year less wood available for export. The countries which are relied upon to make up the shortage in Great Britain are, for soft woods, the United States, Canada, Norway, and Sweden; for hard woods, the United States, Japan, India, and the East Indies; and for mahogany, Central America and West Africa. A large timber importer in this district stated recently that he believed Japan would in the near future become an important exporting country, and that already there had come from Japan to the English market and to many important centers on the Continent some rather large quantities of timber of

excellent quality. There are no countries, the English experts say, other than the United States, Norway, Sweden, Finland, and Canada, which will yield a supply of soft wood. Africa, New Zealand, Australia, and other tropical countries contain only hard woods. It has been suggested that the Pacific Coast will sometime in the future furnish large quantities of wood for export purposes, but that these forests are not available for the European market at the present time. When the Panama Canal is opened, and Canada and the United States can not be largely relied upon, the Pacific coast will then be a very considerable factor in the supply of wood for export purposes. Notwithstanding, however, any future supply that may come from the Pacific coast, it is the consensus of English opinion that there will be a dearth of wood for export from practically all countries within the next twenty-five years, or, at the very furthest, fifty years, unless extensive afforestation is generally carried out, and that in the absence of such precautionary measures each country will within a comparatively short time have to depend for its supply of timber upon what it can grow within its own territory.

IMPORTS OF WOOD AND TIMBER AND MANUFACTURES.

The total value of wood and timber and manufactures thereof into the United Kingdom in 1906 was as follows: Wood and timber, $133,864,809; manufactures of wood and timber, $7,434,400.

The following statement shows the value of the imports of the several classes, together with the value of the classes imported from the United States, in 1906:

Description.	Total import.	Imports from the United States.
Hewn wood and timber:		
Fir, other than pit props or pit wood	$6,557,749	$663,878
Oak	5,208,200	3,080,061
Teak	4,663,090	.....
Pit props or pit wood	13,202,838	.....
Unenumerated	1,570,434	516,812
Total hewn	31,202,311	4,260,751
Sawn, split, planed, or dressed:		
Fir	86,157,074	8,615,846
Unenumerated	4,043,302	1,355,437
Staves	3,078,392	934,844
Total sawn, split, etc	93,278,768	10,906,127
Furniture woods, hard woods, and veneer:		
Mahogany	3,517,676	129,838
Unenumerated, not being ash, beech, birch, elm, oak, or wainscot	5,866,054	3,008,003
Total furniture woods, etc	9,383,730	3,137,841
Total wood and timber	133,864,809	18,304,719
Manufactures:		
Furniture and cabinet ware	2,980,740	1,176,991
House frames, fittings, and joiners' work	1,328,301	399,403
Other manufactures	3,125,359	2,092,404
Total manufactures	7,434,400	3,668,798
Grand total imports	141,299,209	21,973,517

EXPORTS OF WOOD AND TIMBER.

As was to be expected under the circumstances, there is scarcely *any export of* British woods, the only thing entered under this head *in 1906 being* rough hewn, sawn, or split wood, and timber, $445,649,

while foreign woods and timber were exported to the value of $2,981,057. British wood manufactures were exported as follows: Furniture and cabinet ware, $3,700,165; all other manufactures, $2,654,003; total manufactures, $6,354,168, being $1,080,232 less than the imports. About three-fourths of the exports of manufactures went to British colonies.

GERMANY.

COOPERATIVE SOCIETIES.

PROFITS AND VAST EXTENT OF RETAIL BUYERS' ORGANIZATION.

Consul-General Richard Guenther, of Frankfort, reports that the Central Union of the German Consumers' Associations recently held its fifth annual meeting, at which over 600 delegates were present, besides representatives from cooperative associations of England, Holland, Austria, Finland, and Switzerland. The consul-general summarizes the association's operations:

The consumers' associations in Germany are 2,150 in number, having more than 1,250,000 members, and dispose annually of about 330,000,000 marks ($78,540,000) worth of goods. The Central Union comprises 985 of the 2,150 associations, and in 1907 had a membership of 885,074 persons. It employed 12,783 people in its 2,562 stores or selling agencies. The value of goods sold by the Central Union last year figured up 303,750,000 marks ($72,292,500), including 32,750,000 marks ($7,794,500) of goods directly produced by the concern.

The net profits for the year bordered closely on 21,000,000 marks ($4,998,000). The Central Union now has a working capital of 28,333,000 marks ($6,743,254) and owns real estate valued at 42,000,000 marks ($9,996,000). Stock on hand at the close of the year aggregated 32,208,000 marks ($7,665,504).

SPORTING GOODS MARKET.

GERMAN CITY OF BRESLAU MUCH INTERESTED IN ATHLETICS.

Consul Herman L. Spahr finds that Breslau's interest in sports of all kinds grows more lively every year, which leads him to write in regard to the opportunity presented in that second largest city in Prussia for the sale of American athletic supplies:

Horse, bicycle, and boat races are established annual events, balloon ascensions are frequent, and lawn tennis, football, tambourine, and golf have a firm foothold. The young people are very enthusiastic over tennis.

American manufacturers should try for a part of the sporting-goods trade, of which England now has the largest share. The average English or French tennis racket is retailed for 10 to 18 marks ($2.38 to $4.28), but cheaper and dearer ones are also to be had. A dozen felt-covered balls sell at 11½ marks ($2.74), smooth balls at 8 marks ($1.90), red enameled at 9 marks ($2.14), the best tournament balls at 13½ marks ($3.21). Tarred nets are quoted at 6¾ marks ($1.60), or with frame at 9¾ marks ($2.32); racket presses at 2 marks (48 cents), ball nets for 12 balls at 50 pfennigs (12 cents), men's shoes at 7½ marks ($1.78), women's at 6½ marks ($1.55). The price

of English footballs is 10 to 15 marks ($2.38 to $3.57); of German push balls, 8 to 13½ marks ($1.90 to $3.21); of tambourines, 2½ to 3 marks (60 to 71 cents); of tambourine balls, 90 pfennigs (21 cents).

A club was recently organized for the furtherance of English and American sports among the students and faculty of the Royal University of Breslau and the English-speaking society people. The use of a part of Scheitniger Park has been granted for golf links. The membership is large and increasing, and players use the links morning and afternoon. Hockey and some forms of baseball will shortly be attempted. Golf sticks are sold here at 5 marks ($1.19), practice golf balls at 75 pfennigs (18 cents), the regular 2s. ball at 2½ marks (60 cents). A list of Breslau dealers in sporting goods to whom manufacturers may write is forwarded [and may be obtained from the Bureau of Manufactures].

HOLLAND.

AMERICANS FAIL TO PARTICIPATE IN THE LARGE TRADE IN BICYCLES.

Consul Henry H. Morgan, writing from Amsterdam, says that while Holland imports between $1,500,000 and $2,000,000 worth of bicycles a year, the American manufacturers fail to participate in any part of this trade, which is so well worth trying for. This leads him to make the following suggestions:

It is true that at Amsterdam and Rotterdam there exist agencies for the sale of American bicycles, but little or no business is done therein, as they are only carried as a side line in connection with other makes of bicycles. In former years there was considerable business done in Holland in a well-known make of an American bicycle, but in recent years none have been sold, for the reason that the factory would not comply with the needs and the wants of the Dutch market.

The English, French, and German firms, who are the principal importers of bicycles into Holland, all have established stores for the sale of their products, not only in Amsterdam, but in all other principal towns of the country, and are doing a good business. The nature of the country will always make the bicycle, both as a pastime and for business purposes, popular in Holland. There is now as much of a fad for the sport as existed in the United States and Europe twelve years ago. On any fine day in summer thousands of bicyclists can be seen wheeling toward the many seaside resorts of the country, which are all within easy reach of Amsterdam.

I see no reason why the American bicycle manufacturer should not participate in a large percentage of the trade. A good American bicycle, I am sure, would find a ready sale here, but in order to meet with success it is essential that the requirements insisted upon by the Hollander, which consists of a free wheel, a metal rim, and a rim brake both on the front and back wheel, be complied with.

All the bicycles manufactured in Holland are so equipped, as are also those imported from England, France, and Germany. I am certain if the American manufacturers will comply therewith a large business will be done. This opinion is shared by a number of bicycle *dealers with* whom I have spoken upon the subject. The prices at *which bicycles* are sold in Holland range from $30 to $100.

DENMARK.

USE OF SOLID RUBBER TIRES ON CARRIAGES CREATES A MARKET.

Consul-General Frank R. Mowrer, in reporting that the use of solid rubber tires on carriages is gradually increasing in Copenhagen, gives the following trade particulars:

The tires are supplied on most of the best grades of carriages now being sold and Danish dealers state there is a tendency to use them on traps and road wagons. The introduction of automobile taximeter cabs, which are equipped with pneumatic tires, has improved the public horse cab and already on some of these solid rubber tires are used.

The principal supply of solid rubber tires is now imported from Great Britain. American-made tires have been tried in this market, but it is stated they are too soft and while relatively cheaper at the factory than British tires, the transportation charges are considerable. To make purchases in the United States at best advantage it is necessary to place large orders and the present demand does not require a large stock to be kept on hand. In some instances the long transit has made it impracticable to order certain styles and sizes of tires for immediate use.

German tires are considered too heavy and also too expensive. French tires are also dearer than British tires. The approximate value of tires sold annually is $13,400. To secure a portion of this trade it is suggested that American manufacturers of solid rubber tires correspond with dealers, whose names and addresses can be obtained from the Bureau of Manufactures. [Names of similar dealers in other cities may also be secured.]

TURKEY.

BUILDING NEEDS.

CONSTRUCTION WORK IS STILL PRIMITIVE—MATERIALS IN USE.

Consul-General Edward H. Ozmun, in the following report from Constantinople, answers an American inquiry in regard to the use of cement blocks and other building materials in Turkey:

The use of hollow concrete blocks for business purposes is quite unknown in this part of the world. Owing to the poverty of the country, this method may be put aside as quite unsuitable to the requirements of any but the few large cities of the Empire. In the interior, dwelling houses range from the simple mud huts, in various grades, to the house built entirely of wood. In such districts usually the only stone buildings are the railway station, if it happen to be on one of the important railway lines in Turkey, and perhaps the military barracks.

At the capital and in the larger cities of this Empire the dwellings, even of the wealthy classes, are built of wood almost without exception. The exceptions are the few imposing villas of rich Europeans, the large administrations which possess their own buildings, such as the State banks, the public debt, etc., the imperial palaces, the various embassies and consulates, and schools, and apartment flats. As regards the latter class of building, they are nearly all of the iron-girder type, with brick-and-mortar walls. While a good quality of

baked building brick is imported from Marseille, there are several local brickkilns, which sell bricks measuring about 7 by 3½ by 2½ inches.

The palaces and embassies are distinct types of building. Certain other buildings, the Imperial Ottoman Bank and the new Anatolian Railway depot, for instance, are intentional specimens of expensive architecture. The former is in rock-faced bluestone to first story, with upper stories faced with highly decorated yellow limestone. The Anatolian Railway depot is entirely of a local stone quarried along its line, rock-faced, with tooled border. The facing of all other stone buildings in this city whatsoever is in yellow limestone, known as pierre d'arles and Malta stone; these are both very inexpensive and are easily worked. The facing is generally simple in character.

BUT LITTLE PAVING—CONCRETE MACHINERY.

In a few streets in the capital there is a kind of concrete sidewalks, but these are not general; in fact, in some streets there are no sidewalks at all. Where an attempt has been made to make concrete sidewalks, sometimes little more than a yard or a yard and a half in width, the process used is quite primitive. A foundation of sand and pebble is laid, and this is cemented over about as the walls of a house are plastered. Before hardening a design is worked in. Recently a sidewalk near the German embassy has been remade with thin cement blocks similar to those in use in Germany. Concrete machinery, in the form of mixers, concrete-block machines, and ornamental molds are unknown in this city.

It will be seen that there is little immediate opening for concrete block machinery in this district, though in bringing this system to the notice of those in the trade it is possible that some good may result. It is suggested that makers of concrete machinery send their catalogues and pamphlets to the list of architects, builders, and dealers in building material forwarded herewith, and, if possible, the literature sent should be accompanied by a letter or circular in French calling attention to the comparative small cost of elaborately faced buildings. [List obtainable from Bureau of Manufactures.]

PAPER IMPORTS.

THE EMPIRE DEPENDS ON FOREIGN COUNTRIES FOR ITS SUPPLIES.

In the following report Consul-General Ozmun points out the opening that exists for the placing of American paper goods in Turkey:

Notwithstanding the building of large paper mills at Beicos on the Bosphorus some fifteen years ago, the engines and machinery of which alone cost half a million dollars, this mill after being completed worked for less than six months. Turkey imports to-day all the various grades of paper used in the Empire, which, according to the customs returns for the year ending March 13, 1906, were as follows:

Paper, cigarette	$598,330
Paper, wall and other coarse	690,662
Paper, writing	437,757
Total	1,726,749

To this total might also be added $37,741 worth of playing cards and account books, making a grand total approximating $2,000,000. More than one-half of the paper imported into Turkey comes from Austria, the remainder mostly from Germany and France. Not a ream of any of this paper, to my knowledge, comes from the United States.

In this article, like all others imported into this country, it is almost entirely the lower grades that are in demand. With the quick journey from New York to Constantinople by the North German Lloyd and their reasonable freight rates I should like to see American manufacturers attempt to enter this market, and invite correspondence with this view. I am prepared to furnish a list of dealers who will undertake the sale of this article.

MARKET FOR STARCH.

THE IMPORT TRADE IN PREPARATIONS FOR LAUNDRY AND FOOD.

Consul-General Ozmun, in quoting from the Turkish customs-house returns for the year ending March 13, 1906, that the total imports of starch amounted to $82,726, writes:

It is not evident what portion of this is laundry starch and what portion cornstarch. There are, however, two brands of laundry starch known on this market, and they practically divide the entire sale of this article between them. American laundry starch has a very limited sale. Laundry starch is retailed at 7¾ cents per pound, after paying 11 per cent duty and expenses.

American cornstarch is known on this market and is used in the manufacture of "Turkish delight" and other food stuffs. It is imported through London or Antwerp owing to the certain New York houses having their Continental agents in these cities. Cornstarch is put up in bags containing 50 okes (141½ pounds) and is retailed at about 2¾ cents per pound. This is purely a cash article. Cornstarch is also imported to a limited extent from Hungary and Switzerland. I furnish herewith the names of some firms in Constantinople who would be prepared to handle this article, and I see no reason why, with the increased facilities, including cheaper freights, American imports in this article should not show considerable increase. [List referred to may be obtained from Bureau of Manufactures.]

CHINA.

ARTIFICIAL FERTILIZERS.

CHINESE ARE NOW RESORTING TO ARTIFICIAL SOIL RESTORERS.

Vice-Consul Ernest Vollmer submits the following report from Tsingtau on the opening presented in China for the sale of fertilizers:

The rich alluvial soils of Shantung and other Chinese provinces have been worked for so many generations now that the time when artificial fertilizers must be used in order to obtain good crops is rapidly approaching. Unlike most places having similar soil composition, China could postpone this era of manuring longer than would be possible in other parts of the world. The provinces in the great valleys of the Yangtze and Yellow rivers are often flooded,

and an enriching of the soil takes place identical to that of Egypt from the overflow of the Nile.

In the northern provinces another important factor must be counted on. All of the provinces of Shantung north and from the Desert of Gobi eastward to the ocean are subject to terrific sand and dust storms. The statement is made that around tombs and other places where the soil is not disturbed the annual deposit of these storms can be distinctly traced for ages, layers of an eighth of an inch being the minimum for any season. Thus the soil is enriched by floods in one part of the country and by sand storms in other parts, the latter being very much less efficient.

Aside from these natural means of retaining the producing qualities of his land, the Chinese farmer uses every means at his disposal to enrich his acres. A regular rotation of crops is in vogue, and every second or third year the land is summer fallowed and allowed to remain unused. Manure of all sorts is gathered and carefully distributed, and artificial fertilizers are coming into use. The greatest loss of strength to the soil probably comes from the fact that all vegetable matter is gathered and used for fuel, so that what the ground has once given up to plant life is lost to it forever.

TRIALS OF EUROPEAN AND AMERICAN FERTILIZERS.

European firms have made attempts to introduce chemical fertilizers into this district. Their efforts can not be described as successful. The plan adopted was to sell the ingredients to the natives, tell them in what proportions they were to be mixed, and in what quantities the mixture should be applied to various kinds of soil. The main difficulty of the plan was that of securing proper mixing of the ingredients by the Chinese farmer. The chemical compounds tried burned the plants as soon as a drought set in. As Shantung is likely to have dry spells and rain is seldom plentiful, this proved another serious drawback.

A start in the right direction is now being made by an American packing house. Several hundred pounds of fertilizer, blood scrap, and bone have been sent here for free distribution among native farmers. Prices are reported to be within the reach of the better situated agricultural people, the mixture is adapted to any soil, and it will not burn crops. Some small orders are already resulting, and should the tests prove satisfactory, a market with unlimited possibilities will doubtless be opened. A good fertilizer, comparatively cheap, which needs little or no scientific knowledge in its application, is one of the great needs of China, and once successfully introduced will grow into a leading import throughout the Empire.

TIBETAN TRADE REGULATIONS.

NEW COMMERCIAL AGREEMENT PERFECTED BY THE CHINESE AUTHORITIES.

Consul-General William H. Michael, of Calcutta, states that the full text of the new Tibetan trade regulations have been officially given out through the "Gazette of India," from which he summarizes as follows:

Article V runs thus:

The Tibetan authorities, in obedience to the instructions of the Peking government, having a strong desire to reform the judicial system of Tibet and to

bring it into accord with that of western nations, Great Britain agrees to relinquish her rights of extraterritoriality in Tibet whenever such rights are relinquished in China and when she is satisfied that the state of the Tibetan laws and the arrangements for their administration and other considerations warrant her in so doing.

EPITOME OF THE REGULATIONS.

(1) The boundaries and places situated within the Gyantse mart are defined, and British subjects are empowered to lease such building sites at the mart as may be approved conjointly by the British trade agent and the Chinese and Tibetan officers at the mart.

(2) The administration of the trade marts in the hands of the Tibet officers under Chinese supervision, with an appeal in the first place to the governments of India and Lhasa, and ultimately to the Governments of Great Britain and China.

(3) In disputes between British subjects and persons of Chinese and Tibetan nationalities, British subjects are to be tried by the British agent according to the laws of India, and Chinese and Tibetan subjects by the Chinese and Tibetan authorities according to the law, each side to have the right to send representatives to watch the trial.

(4) Great Britain agrees to relinquish her rights of extraterritoriality in Tibet whenever such rights are relinquished in China.

(5) China, after the withdrawal of the British troops, takes over the eleven rest houses built by Great Britain upon the routes between India and the Gyantse and will lease them to the government of India. China will protect the telegraph lines from India to Gyantse, and Great Britain will consider the transfer of these lines to China when the telegraph lines from China reach the mart.

(6) For the hearing of suits for the recovery of debts and marts. The British trade agents at the various marts are empowered to arrange for the transmission of letters to and from India.

(7) British officers and subjects are prohibited from traveling without permission in Tibet otherwise than to and from India to the trade marts direct.

(8) The local authorities are bound to protect officials and traders en route to and from India or Tibet.

(9) Kerosene and other dangerous articles in bulk shall be stored only in suitable states.

(10) Free trade at the marts is provided for.

(11) The regulations shall remain in force for ten years, terminating thereafter on six months' notice on either side, and they shall be ratified within six months at London and Pekin.

TRADE OF DALNY.

LARGE DECREASE IN THE IMPORTS OF STAPLE ARTICLES.

Consul Roger S. Greene furnishes the following information concerning the imports and exports of Dalny (Darien) during the first quarter of 1907 and 1908:

The imports and exports at Dalny during the first quarter of 1907 and 1908, by countries, were as follows:

Country.	Imports—		Exports—	
	1907.	1908.	1907.	1908.
Japan	$1,924,408	$2,201,102	$1,378,272	$2,345,516
China	536,242	630,913	604,997	1,908,724
Korea	64,529	.....	1,737	117
America and Europe	329,758	2,356,681	.....	401
Total	2,854,937	5,188,706	1,985,006	4,254,758

The large imports noted in the foregoing statement for the 1908 quarter are mainly due to the increased arrivals of railway materials ($2,700,000), some of the staple articles of import showing the following decreases during that quarter: Cotton cloth, $223,000; flour, $260,000; kerosene, $42,000. The increase in the exports occurred nearly altogether in beans and bean cake.

TEA EXPORTS.

THE SHIPMENTS GREATER THAN FOR SEVERAL YEARS.

Consul J. C. McNally, of Nanking, reports that the tea trade of China was more flourishing and the shipments greater in 1907 than in any year since 1903, the exports being 214,629,663 pounds, valued at $25,388,808, an increase of 27,459,400 pounds and of $4,085,104 over 1906. The shipments to Russia and Great Britain were greater than in 1906, while the United States took 26,891,942 pounds, or 6,626,476 pounds more than in 1906.

BRITISH INDIA.

PUNJAB PEOPLE SEEKING MORE MODERN COMFORTS THAN FORMERLY.

According to Consul-General William H. Michael, of Calcutta, the report on the internal trade of the Punjab, India, for the three years ending with March last reflects the fact that the agricultural conditions of the province were very favorable, except in the middle year of the triennium. He summarizes the trade as follows:

The highest export figures on record succeed the excellent crops of 1906, and 49 per cent more goods were exported during this three-year period than during the preceding one. By far the bulk of the export trade is in food grains, and the total under this head was 77 per cent greater than in the previous triennium. There was an increase of 29 lakhs, or $966,666, in value of imports, despite slackening in the abnormal imports of sugar, and increases in the consumption of piece goods, apparel, gunnybags, ghi (clarified butter), and kerosene oil all indicate increased purchasing power of the people. Imports of apparel rose in value from 58 lakhs, or $1,933,330, to 103 lakhs, or $3,433,330. European cotton piece goods fell off by 5½ lakhs, or $175,000, while Indian piece goods advanced by about 50 lakhs, or $1,666,660. Prices of European piece goods were exceedingly high, and this fact helped to turn the scale in favor of country-made goods. On the whole the figures indicate steady progress in prosperity, and those relating to the imports especially show that the people are seeking more material comfort than has hitherto satisfied them.

JAPAN.

COMMERCIAL AND INDUSTRIAL EFFORTS FOR ADVANCING THE COUNTRY.

Consul-General Henry B. Miller sends from Yokohama the following Japanese newspaper matter relating to trade and commerce:

The value of matting exported from Kobe during May amounted to $117,700, showing a decrease of $125,690 on the figures of the previous month and of no less than $161,500 on the figures of the corresponding month of last year. The price still continues to decline.

The value of fertilizer imported up to June this year amounted to $6,203,000, showing an increase of $1,799,500 on the figures for the corresponding period of last year, but the demand has not increased in proportion. In and about Tokyo alone, 300,000 to 400,000 bags or bales are known to remain in the warehouses unsold.

The Sydney correspondent of the British Trade Journal states that it was recently discovered that some of the paper used in the federal printing office was made in Japan. This has caused the Australian federal treasurer to

have inserted in all future contracts the name of the country where the supplies have been, or are to be, manufactured, and here it may be mentioned, says the correspondent, that Japanese competition in the paper, printing, and stationery trades is continually becoming more pronounced, the style and production being marvelously good. Thousands of business catalogues are being issued by large retail houses, the cost f. o. b. being so low that the federal duties cease to be prohibitive. According to the correspondent referred to, Japan is likely to enjoy a considerable export trade in paper supplies of almost every description.

In the eleven years since the promulgation of the shipbuilding encouragement law in March, 1896, to June, 1908, 88 steamers, with an aggregate tonnage of over 200,900, were built in Japan, receiving bounties in accordance with the same law. Eleven steamers with an aggregate tonnage of about 8,200 are being built with the bounties under the shipbuilding encouragement law.

The Japanese cotton spinners' association has arranged to grant a bounty of 37 cents per bale on the export of yarn to other places (Hong Kong inclusive) than China, this to be in place of the prize tickets so far as the non-Chinese places were concerned.

CEYLON.

HEAVY DECLINE IN PLUMBAGO TRADE, WHILE PRICES REMAIN FIRM.

Consul E. A. Creevey, of Colombo, reports that the trade in plumbago, of which Ceylon is the world's chief producer, has suffered perhaps more than that in any other commodity since the beginning of the business depression which, following the financial disturbance in New York, has since been experienced in Great Britain and Europe. The consul's details follow:

For the first quarter of the current calendar year the exports of this article to the United States were considerably less than one-third the value of those for the first quarter of 1907, although the average price has fallen only 10 per cent. Dealers say that there are no considerable orders in sight, and they have no hopes for a revival of demand until the stocks accumulated in Europe and the United States have been exhausted.

The steadiness of prices is due to the fact that there are no great stocks above ground. When the depression was first felt, the majority of the mine owners suspended production, and at present only those mines are worked in which it is necessary to maintain operation to prevent flooding.

In the first half of 1907 exports were on a par with those of the first half of 1906, which were the greatest ever recorded. Orders began to fall off in July, and the decline, except in October, has since been steady. However, the total quantity exported in 1907 was greater than that exported in 1899, which had been the record year until 1906.

DECREASE IN SHIPMENTS.

The net decrease in plumbago exports for 1907, as compared with 1906, was 51,729 hundredweight. Exportations to the United States, which has long been the greatest consumer of plumbago, showed a decrease of 22,886 hundredweight, those to Great Britain a decrease of 17,517 hundredweight, and those to Germany a decrease of 27,261 hundredweight. The trade with Belgium, on the other hand, increased, exports to that country showing a gain of 16,419 hundredweight over 1906.

The exportations for 1907, as shown by the Ceylon customs returns, were:

	Hundredweight.	Value.		Hundredweight.	Value.
United States	290,417	$1,326,237	Other countries	14,005	$63,957
United Kingdom	169,857	775,680			
Germany	100,012	456,721	Total	650,116	2,968,863
Belgium	75,825	346,268			

Japan, Russia, and France each buy plumbago in small quantities. The 1907 average price was slightly lower than the average price of 1906.

On the foregoing exportations the Ceylon government collected export duty to the amount of $54,182, at the rate of 25 rupee cents ($0.0811) per hundredweight; this tax realized $4,306 less than in 1906.

VARIATION IN STATISTICS—CURRENT PRICES.

The principal exportations in the first quarter of 1908 were:

	Hundredweight.	Value.		Hundredweight.	Value.
Great Britain	35,918	$164,025	Belgium	16,138	$73,697
United States	24,691	112,755			
Germany	24,189	110,563	Total	100,936	461,040

The values quoted are those shown by the Ceylon customs returns, in which they are based upon a fixed valuation of $91.33 per ton of 2,240 pounds. The value of the exports to the United States in the first quarter of 1908 is shown by the invoice register of this consulate to have been $115,160. This computation is made from invoices showing the actual amounts paid. The value of plumbago sent to the United States in the first quarter of 1907, as shown by the invoice register, was $419,207.

The average prices per long ton of the various qualities of plumbago for the calendar year 1907 were: Flying dust, $25; dust, $33; chip, $85; ordinary lump, $112; large lump, $112. The price of plumbago is regulated not only by the form in which it is sold, but by the percentage of carbon found in each lot as well. Prices of different qualities prevailing in 1907, percentage of carbon being 40 to 95, were: Flying dust, $15 to $75; dust, $12 to $50; chip, $50 to $140; ordinary lump, $67 to $200, and large lump, $80 to $200.

AUSTRALIA.

COMMONWEALTH'S OVERSEA TRADE.

AN INCREASE IN IMPORTS OF MERCHANDISE—A DECREASE IN EXPORTS.

Consul-General John P. Bray, of Melbourne, supplies the following Australian foreign commerce statistics for the early portion of this year:

During the first three months of 1908 the oversea exports of merchandise from Australia, as compared with the corresponding period of 1907, amounted to $63,725,275, a decrease of $26,293,174, while the imports have increased by $5,225,794, reaching $62,255,125. The exports of gold amounted to $16,125,420, an increase of $4,916,781, and the imports decreased by $495,716, to $1,822,402.

The following is a list of the principal imports and exports for the three months:

Imports:	
Apparel and dry goods	$18,590,906
Boots and shoes	469,325
Cement	92,040
Cordage	799,785
Chemicals	1,109,869
Earthenware	431,114
Fish (preserved, etc.)	848,640
Hats, etc	546,673
Hops	68,209
Iron, galvanized	1,214,391
Iron and steel	1,295,467
Iron (pig)	182,703
Jute goods	1,079,288
Leather	316,191
Lumber	2,422,067
Imports—Continued.	
Machinery, agricultural	$403,944
Machinery, other	3,121,728
Manufactures of metals	4,392,493
Manures	536,673
Oil	562,426
Paints	533,803
Spirits	713,570
Sugar	603,782
Tea	1,263,479
Tin plates	375,362
Tobacco—	
Manufactured	105,389
Unmanufactured	200,801
Cigars and cigarettes	134,929
Wine	145,401

With the exception of currants, hats, galvanized and pig iron, jute goods, agricultural machinery, metal manufactures, oil, and spirits, which show slight decreases, every article in the foregoing list shows a substantial increase.

Exports:	
Butter	$5,136,975
Coal	1,876,483
Copper ingots	2,176,085
Flour	1,174,676
Fruit, fresh	553,160
Hides	221,377
Horses	113,063
Lead, pig	1,341,446
Leather	586,778
Lumber	1,012,393
Meat, frozen	1,198,707
Exports—Continued.	
Ores, other than gold	$1,305,886
Pearl shell	196,791
Silver	1,145,564
Skins, sheep	1,265,027
Skins, rabbit	149,036
Skins, other	157,957
Tallow	755,388
Tin	1,096,052
Wine	117,964
Wheat	6,397,561
Wool	28,919,624

Wool decreased by nearly $15,000,000, butter by $851,949, wheat and flour by $1,045,289, copper, lead, tin, and silver together by $3,693,673, and frozen meat by $1,539,395.

The aggregate value of the imports of dry goods from the United Kingdom for the three months was $7,727,636, against $7,548,311 for the corresponding period of 1907. The following are the figures for the first three months of this year:

Apparel	value	$1,077,599	Jute piece goods	yards	944,800
Boots and shoes	pairs	238,872	Linen piece goods	do	2,637,100
Carpets	yards	227,300	Silk broadstuffs	do	42,793
Cotton piece goods	do	34,486,600	Woolens	do	3,456,300
Haberdashery and millinery	value	$244,220	Worsteds	do	2,157,700

TRADE OF VICTORIA.

During the first four months of 1908 the imports and exports of the State of Victoria, Australia, both show decreases in comparison with corresponding period of 1907. The imports of merchandise were $25,620,580 and of gold $788,928, and the exports $16,916,557 for merchandise and $6,463,588 for gold. The following are the principal imports and exports during the four months:

Imports:			Exports:		
Apparel and dry goods	yards	1,586,552	Bacon and hams	pounds	10,380
Beer	gallons	225,755	Butter	do	8,677,776
Candles	pounds	18,196	Biscuits		136,089
Cement	hundredweight	107,744	Confectionery	pounds	158,966
Hops	pounds	123,083	Flour	centals	427,007
Iron and steel	hundredweight	263,782	Fruit, fresh	do	6,689
Iron, galvanized and pig	do	197,946	Hay and chaff	hundredweight	9,221
Lumber	value	$921,846	Jams	pounds	186,721
Machinery, agricultural	do	$186,087	Meats, frozen	do	9,524,178
Machinery, other	do	$865,750	Meats, tinned	do	156,122
Manufactures of metals	do	$1,549,800	Poultry	pairs	5,399
Meats, tinned	pounds	46,082	Rabbits, frozen	do	297,886
Oil, kerosene	gallons	1,732,358	Skins, sheep	number	1,570,764
Spirits	do	183,885	Skins, rabbit	pounds	553,195
Tea	pounds	3,018,849	Raisins	do	192,526
Tin plates	boxes	31,083	Tallow	hundredweight	46,861
Tobacco, manufactured	pounds	115,561	Wheat	centals	[illegible]
Tobacco, unmanufactured, pounds		1,143,806	Wine		
			Wool		

AMERICAN GOODS IN TASMANIA.

IMPORTS OF MERCHANDISE INDICATE LINES FOR EXTENSION.

Consul Henry D. Baker, of Hobart, in presenting the returns compiled for him by the collector of customs for Tasmania, showing the principal articles with their values imported into Tasmania from the United States during the calendar year 1907, writes:

The figures do not include American goods imported indirectly through Melbourne and Sydney, the greater part of Tasmania's business with the United States being conducted through general agents in those cities. The import figures are of interest as showing more the classes of goods which Tasmania buys from the United States than the quantities which are bought, and are impossible to fully ascertain owing to the fact that the States of New South Wales and Victoria are credited with a large part of the goods eventually consumed in Tasmania.

A perusal of the articles enumerated may be beneficial to American manufacturers as indicating along what lines and in what classes of goods there may be opportunities for extension of American trade.

Articles.	Value.	Articles.	Value.
Apparel	$4,896	Typewriters	$583
Cartridges	3,849	Tools, hand and machine	17,145
Arms	2,340	Medicines	3,591
Blacking and dressing	403	Metals, manufactured	13,059
Books, printed	847	Nails	3,718
Boots	2,910	Pipes, iron	3,046
Brush ware	910	Plated ware	4,502
Clocks	5,163	Wire	4,511
Cutlery	788	Paints	6,156
Electrical materials	1,489	Paper and manufactures	14,113
Fancy goods	2,355	Paper hangings	1,913
Fish, preserved	7,558	Perfumery	1,060
Furnitur	7,850	Piece goods	7,383
Glassware	472	Resin	1,435
Agricultural implements	25,579	Sausage casings	1,586
Reapers and binders	5,927	Soap	3,265
India rubber goods	730	Stationery	1,382
Musical instruments	1,781	Timber	31,380
Iron and steel rods and bars	1,017	Tobacco	25,584
Galvanized iron	885	Cigars and cigarettes	676
Jewelry	730	Varnishes	506
Lamp ware	1,971	Vehicles and parts	3,835
Leather	876	Watches	1,065
Leather manufactures	886	Manufactures of wood	3,338
Cream separators	2,511	Ax handles	4,774
Engines	11,067	Other articles	15,026
Boilers	10,550		
Machinery	5,690	Total	291,533
Sewing machines	4,861		

AMERICAN STAMPED GLASSWARE.

There is a good market in Tasmania for American stamped glassware, but its sale might be materially increased if the Tasmanian importers were subjected to less loss from breakage due to faulty packing on the part of the American manufacturer. The breakage appears to average about 10 per cent of the amount of the goods imported, as against about 5 per cent on competing German glassware of the same sort.

Some of the agents who supply the local market with American stamped glassware decline to break cases in selling to local consumers,

as they are afraid of the possibility of even a much more than 10 per cent of breakage after the opening of the cases. One dealer tells me he would rather sell American glassware at 15 per cent profit in unbroken lots than at 25 per cent profit on broken lots, as he would rather sell to the consumer at a less price, but let the consumer take the risk, than to sell at a greater price and he himself take the risk from breakage. American styles of stamped glassware appear to be in good favor with the local trade at about $1.30 per dozen. The glassware most in request includes plates, fruit dishes, butter and cheese dishes, and dishes for "sweets" or cakes and confectionery. No American tumblers to my knowledge are sold here. The German and Austrian tumblers, invoiced at about $1.50 a gross, have a practical monopoly of the local market.

TARIFFS ENCOUNTERED.

The duty under the new Australian tariff act on American stamped glassware is 25 per cent ad valorem, with a reduction of 5 per cent ad valorem in favor of imports from Great Britain. As there is little or no local competition, however, in the manufacture of stamped glassware, and not much prospect of any, the high tariff need not deter American manufacturers from attempting to further exploit their trade in this country. By more careful packing of their goods, eliminating the waste from breakage, the extra cost from the tariff might be overcome. Also American manufacturers must not make the mistake of sending the most expensive grades of glassware to this country, as they will not meet with ready sale. Ordinary stamped glassware is looked on as a good deal of a luxury, but desirable in every home.

Large profits are made on American stamped glassware by the Australian agents who have made it a feature of their business. If American manufacturers had direct agencies in Sydney and Melbourne and traveling men of their own who would thoroughly canvass all the States of the Commonwealth, including Tasmania, they would doubtless greatly increase their profit from this trade.

SUCCESSFUL EXPLOITATION OF AMERICAN SEWING MACHINES.

The Hobart agency of one American company has been selling an average of 30 sewing machines a week. It has 17 traveling men who visit the smaller towns of Tasmania and explain directly to possible buyers all the particular advantages of this American machine. These traveling men are natives of Tasmania who have been carefully selected and trained. The results are satisfactory and in the future are likely to be still more so, as the new Australian tariff act takes off the 10 per cent duty on sewing machines. The canvassers are not permitted to hanc any other article, in marked contrast to the policy pu bv Ameri-
can manufacturers in seeking to sell goods
general agents at Melbourne and Syd y
other articles, some of which compete w
facture.

JAVA.

DETAILED RESULTS OF LAST YEAR'S SALES OF QUININE.

Consul B. S. Rairden, of Batavia, submits the following statistical statement of the public sales of quinine for the year 1907:

Dates.	Amount offered.	Amount sold.	Average price per pound.	Average unit price.
	Pounds.	*Pounds.*		
January 23	13,044	1,870	$3.015	$0.0211
February 27	13,052	7,535	2.548	.0168
April 3	9,581	9,581	2.412	.0151
May 8	12,004	6,138	2.310	.0131
June 19	10,807	5,589	2.630	.0134
July 24	6,432	6,432	2.220	.0130
August 28	13,300	7,186	2.360	.0141
October 9	10,529	5,389	2.310	.0131
November 13	8,133	8,133	2.447	.0147
December 18	12,153	1,298	2.405	.0140
	109,035	59,151	2.466	.0148

BRITISH SOUTH AFRICA.

IMPORT TRADE.

SHARE OF THE UNITED STATES AND THE UNITED KINGDOM.

The following statistics covering the leading imports into British South Africa in 1907 are furnished by Consul Edwin S. Cunningham, of Durban, Natal:

The Statistical Bureau of the South African Customs Union has compiled a statement showing the imports into British South Africa in 1907, with particular reference to those articles wherein the United Kingdom, with a discriminating tariff in its favor, competes with foreign countries, from which the statement herewith following has been compiled showing the percentages of the United States and the United Kingdom.

There are five articles of import whereof the United States supplies between 50 and 80 per cent, viz: Canned and preserved meats, fencing wire, engine and machine oil, carts and carriages, and wax, paraffin, and stearin, and in only one article, lard, does the supply from the United States exceed 80 per cent. There are eleven articles in the list whose imports from the United States run from 20 to 50 per cent, and twenty-nine whose imports are less than 20 per cent. There may be articles unenumerated whose imports from the United States may hold greater percentages than the foregoing, for those enumerated are only such as have to meet the favored competition of the United Kingdom. In the total imports in 1907, $126,029,439—a decrease of $19,282,635 as compared with the imports of 1906—the percentages of the several countries therein are given as follows: The United States, 7.8; United Kingdom, 57; Canada, 1.5; Australasia, 7.8; other British possessions, 5.2 (total United Kingdom and British possessions, 71.5); Germany, 7.6; Belgium, 1.1; Argentina, 1.8; all other countries, 10.2.

Statement showing the value of the total imports into British South Africa in 1907, and the percentages therein of the imports from the United States and the United Kingdom.

Articles.	Total imports.	Percentage from the—	
		United States.	United Kingdom.
Animals, living	$548,674	11.4	35.6
Brush ware	240,512	16.6	65.6
Candles	819,971	3.7	79.9
Cement	561,760	.....	70.2
Clocks and watches	193,249	20.1	44.1
Cotton manufactures	8,733,484	.5	81.5
Drugs and chemicals	3,210,936	7.0	50.6
Earthern and china ware, including bricks	508,311	.9	73.5
Fodder and forage	98,352	.1	4.6
Food and drinks:			
Butter	1,719,432	.....	.6
Butter substitutes (margarine, etc.)	281,897	.3	14.0
Cheese	644,923	.2	2.9
Beans and pease	141,552	4.5	9.1
Maize	21,646	3.6	.2
Wheat	4,067,090	2.4	.....
Wheat flour	3,016,111	10.0	.2
Fruits, dried, except dates	214,856	23.5	4.0
Fruits, bottled and canned	126,178	35.5	28.2
Lard	238,843	83.8	14.2
Meats—			
Beef	1,998,816	.....	.....
Mutton	763,306	.....	.....
All other fresh	236,814	6.2	11.3
Canned and preserved	401,256	57.8	16.6
Oatmeal	338,912	5.4	41.2
Oil, salad	82,884	20.0	44.4
Sugar, and products thereof	3,076,196	1.6	12.8
Vegetables—			
Fresh	130,616	.....	28.0
Preserved	146,615	12.4	9.1
Furniture, of all sorts	1,845,892	2.2	56.1
Glassware	9003,100	7.0	43.3
Hardware and cutlery:			
Fencing standards	410,080	1.1	84.0
Fencing wire	853,413	60.5	30.7
Tools	108,083	18.3	40.8
All other	3,930,400	10.1	71.0
Implements, agricultural	1,001,444	44.6	35.8
Instruments, musical	457,518	9.4	20.8
Lampware	180,827	20.5	42.7
Machinery:			
Agricultural and water boring	1,103,654	40.9	40.4
Mining	3,705,581	17.6	73.9
Oil, engine and machine	402,823	71.2	24.8
Rails	355,097	6.8	29.8
Soap and fancy extracts	160,182	20.0	76.0
Tallow	72,488	0.4	11.6
Vehicles:			
Carts and carriages	180,151	60.8	30.8
Bicycles and tricycles	604,208	7	91.4
Wax, paraffin and stearin	201,047	64.8	3.8
Wood:			
Rough	1,477,856	34.6	.6
Planed and grooved	772,884	14.6	.4
Manufactures, n. e. s.	740,884	22.3	14.6
Zinc and zinc manufactures	404,184	.7	7.2
All other articles	12,226,400	6.1	60.5
Total	100,000,000	7.8	59.4

TRADE OF NATAL.

FOR THE FIRST TIME THE EXPORTS EXCEED THE IMPORTS.

Vice-Consul Algernon P. Richards, of Durban, in reviewing the trade of the colony of Natal during the first quarter of this year, says that it was healthier than in the first three months of 1907, his report continuing:

Business during the three months under review has been [illegible] of the most important branches of commerce. The total value of imports [illegible] ending March 31, 1908, which is the corresponding year of 1907, the decrease was [illegible] including gold, specie, [illegible] notwithstanding the fact that the [illegible] first time in the history of [illegible] that the [illegible] amounts [illegible]

A further striking fact is that the exports of purely colonial products increased from $3,807,569 in the first quarter of 1907 to $4,999,609 in the first quarter of this year—an advance of 31.3 per cent. This result demonstrates the effectiveness of the effort which is being made to foster colonial industries. The actual state of trade in Natal is not discouraging. Lack of confidence, which is apparent here, is more the outcome of previous depression than the result of existing business conditions. The volume of trade in comparison with the population of the colony is large, and the fact that this year opened more auspiciously than its predecessor is evidence of the progressive tendency of local business.

VARIATIONS IN IMPORTS AND EXPORTS.

The articles of import which showed an increase the first quarter of this year over the first quarter of 1907 are cotton manufactures, maize, grain, flour, rice, wood and woolen manufactures; while the following showed a decrease: Fodder and forage, furniture, haberdashery, millinery, hardware, cutlery, iron and iron manufactures, machinery, petroleum, tobacco, bicycles and tricycles, and motor vehicles.

Following are the values of exports from Natal, showing substantial gains for the first quarter of 1908 over the corresponding period of 1907:

Articles.	1907.	1908.	Articles.	1907.	1908.
Bark	$144,759	$116,718	Angora hair	$38,465	$55,128
Coal	710,489	1,093,503	Hides and skins	176,206	156,307
Maize	46,490	374,235	Matches	83,086	107,535
Sugar	500,116	766,756	Soap	73,080	120,110
Tea	87,037	135,328	Wool	1,303,000	1,211,802

PROGRESS OF DURBAN.

ITS GROWING IMPORTANCE AS A COALING STATION.

Consul Edwin S. Cunningham, of Durban, gives the following account of improved harbor facilities and the increasing trade of Natal's chief seaport:

Improvements in the harbor at Durban have been noted in former reports and attention called to the excellent facilities offered for the handling of cargo and the coaling of vessels. As a coaling station Durban is of growing importance, and it has been the endeavor of the port department not to permit her transit trade to diminish because of any want in facilities given. The average low-water depth at the harbor entrance was increased to 32⅔ feet. Four 60-hundredweight hydraulic cranes and two hydraulic capstans for moving wagons were added to the port equipment. The coaling appliances were put into operation during the first half of the year and have greatly facilitated coaling.

The total tonnage trade of the port for 1907 was 1,620,956 tons, of which 482,337 tons, value $37,648,558, were imports and 1,138,619 tons exports. Coal constitutes the principal export, 991,255 tons, value $3,917,532, being exported, while other merchandise only totaled 147,364 tons. The total trade for 1906 was 1,354,192 tons, the *imports being* 563,158 tons, the export of coal 703,870 tons, and of *other cargo* 87,164 tons.

TRANSPORTATION.

WATERWAYS AND HARBORS.

CANADA.

PLANS FOR EXTENSIVE CANAL BUILDING FOR GREAT WHEAT TRAFFIC.

Consul H. D. Van Sant advises that the proposal of the Canadian government to construct a new 25-foot Welland Canal at a cost of $25,000,000 to $30,000,000 meets with strong indorsement in the Kingston district. The consul continues:

The new canal would mean a vast increase in the transshipping at this port. With the larger locks and the deeper channel of the new canal many of the large vessels on the upper lakes which now transship at Buffalo would come on through to the foot of the lakes at Kingston. The draft of these vessels would be too great to permit them going down the St. Lawrence to Montreal, so that most of them would transship at Kingston, the end of the lakes. With this increase to its local trade, the expansion would be marked and Kingston would soon resume its place as one of the commercial centers of Canada, for which it was selected by Frontenac when he first landed here in 1682.

The present Welland Canal will not allow a steamer to carry more than from 60,000 to 75,000 bushels of wheat, the result being that the steamers going through the Welland Canal now are only about one-fifth the size of the big steamers that carry grain to Buffalo from the West and Northwest.

It takes about seven days to make the trip from Chicago and Fort William to Buffalo and return, exclusive of the time taken to discharge the cargo. Twenty-four hours longer would take this steamer from the foot of Lake Erie to Kingston via the Welland Canal. It is claimed the deepening of the Welland Canal and bringing the grain to Kingston for transshipment would mean a saving of not less than 2½ cents per bushel, making the total cost of the grain delivered to Montreal 2¾ cents a bushel, a total saving of about 3 cents a bushel from Fort William.

CONSTRUCTION COST AND SAVING EFFECTED.

On the other hand, the advocates of the new Georgian Bay and Ottawa River Canal claim that this route would open up a distinctly larger field for Canadian development, besides being a shorter route to Montreal. This route from the mouth of the French River on Georgian Bay to Montreal via the Ottawa, Mattawa, and French rivers is 440 miles. Of this about 400 miles is river and lake waterway, with but 30 miles of actual canal to be lt. T e imated cost by the Lake St. Louis and Saint An ent ce for a 22-foot channel is $100,000,000. The R ce

would cost $6,000,000 less. The engineers estimate that the canal would be open for traffic for 200 days in the year.

Yet from the Kingston view point the building of the deeper Welland Canal would compare favorably with the more northern Georgian Bay route. The St. Lawrence route would be longer, but there is more open deep water to Kingston and much less canal digging and cost. Based on a crop of 100,000,000 bushels of grain the Welland route would mean a reduction in grain rates of $6,000,000.

This information is embodied in the views of a number of the leading grain transporters of Kingston, who claim that instead of three grain elevators at Kingston, the deepening of the Welland Canal would at once mean six or eight additional ones of even larger capacity.

AMERICAN ADVANTAGES.

On account of geographical position and shorter distance to the Atlantic as well as more temperate climatic conditions, the building of the Welland Canal at a cost of $30,000,000 or the Georgian Bay Canal at a cost of $100,000,000 will not overcome finally or fully the advantages of waterways building or proposed to be built in the United States.

The enlargement of the Erie Canal from Buffalo through New York State, or the building of the new canal from Montreal through the Lake Champlain district to the Atlantic, or the larger project for the deepening of the Mississippi and connecting waterways from the northwest to New Orleans, means the continued supremacy of American lake and canal trade. These American waterways, when completed, will for some time to come more than offset the advantages of the longer and more dangerous St. Lawrence route, beset with narrow channels and rocky shoals and swift currents, late and thick fogs and ice blockades, and the short and dangerous season across the Newfoundland banks, not as safe as either of the proposed American routes till after June 1, at least.

If, however, either the Welland Canal is enlarged or the Georgian Bay route becomes a certainty it means a very large addition to the Canadian carrying trade through its own territory to Montreal and a considerable increase in the trade through the lower St. Lawrence.

INLAND WATER ROUTES.

PLANS FOR IMPROVING TRANSPORTATION FACILITIES.

Consul E. A. Wakefield reports from Orillia that necessity for constantly improving and increasing Canada's rail and water transportation lines was the keynote of a recent address by the Canadian minister of railways and canals at Galt, Ontario, which is outlined from newspaper reports as follows:

His argument was in favor of a policy which will enable Canada to fulfill her great destiny, placing her in the forefront of the nations of the world. He announced that the government were determined that Hudson Bay should be linked up with the railway system of the country, and thus an additional outlet afforded for the commerce of the ever-growing West. He also dwelt on the importance of the scheme of solving the great transportation problem, the building of

the Georgian Bay Canal, and the deepening of the Welland Canal to 25 feet, or the cutting of an entirely new waterway capable of accommodating vessels of that draft. He pointed out that the construction by the State of New York of the new Erie Canal would reduce the cost of transportation of wheat to New York to 3½ cents a bushel. That would deprive Montreal of an advantage now enjoyed, and which has resulted in the transfer of a large traffic to the Canadian port. A Welland Canal which could be navigated by vessels drawing 25 feet would reduce the cost of transportation to Montreal to 3⅜ cents per bushel and help to keep Canadian trade in Canadian channels.

EGYPT.

LIMITED USE OF TRANSPORTATION BY CANALS AND RIVERS.

Consul-General Lewis M. Iddings, of Cairo, makes the following report on water transportation in Egypt, with consideration of a prospective market for light American craft:

Not so much use is made of water transportation in Egypt as one might think, in view of the possibilities offered by the River Nile and the many canals throughout the Delta. The Nile is a great navigable stream for many hundred miles. The first cataract is at Assouan, but there is no interruption of traffic until Wadi Halfa is reached, 800 miles from Cairo. The primary object of the canals is to distribute water for irrigation, but they are really broad and deep water courses, easily navigable by sailing boats and small steam tugs.

Shipping could not be allowed to interfere with irrigation, but the canals could be much more used for transport than they are. On the Nile are many steamers and sailing boats, but most of the hauling in Egypt is done on the State railways and light railways. If the canals were to be used, great docks and landing-places would be required at Alexandria, and landing places would have to be built at many points. None of these things exist.

WIND AND CURRENT BOTH FAVORABLE.

It is a curious fact that the Nile and most of the canals in Egypt run north and south. The wind blows nearly all the year from the north, and thus furnishes the cheapest propelling power for boats going south. When the boats return north, the rapid current of the Nile is the motive power. The regularity of the wind and the steadiness of the current are two reasons why boats propelled by any other power are so little used. Time is not so important an element in business in Egypt as in some other countries, and it does not matter, therefore, that boats propelled by wind or current are slow. Formerly all boats that went under bridges had to pay a tax at each bridge. This tax has now been removed.

In preparing the following statistics on water transportation in Egypt I have had especially in mind the possibilities for motors and motor boats. We have many inquiries from the United States as to how this branch of trade might be pushed. It must be remembered that in the shallow water in these canals and on the Nile when it is low, to go slowly is a great advantage, so that if one runs on a sand

bank it will be easy to get off. There are no pretty villages, nor picnic spots, nor shady nooks, along the water courses in Egypt, except perhaps the Barrage Gardens near Cairo. Small pleasure boats therefore are not much used. It is said to be the result of Italian experience that screws or paddles for the purpose of canal towage have not proved successful.

LENGTH OF CANALS—NAVIGATING COMPANIES.

The principal canals in the Delta are as follows, in the Sharkia Province: Ismailia Canal, Suez branch, 55.89 miles; Bahr Moes, 33.13; Bahr el Baggar, 29.81; Rayah Tewfiki, 24.06; Bahr Faccous, 21.23; total in the province, 273 miles.

In the Menoufia and Gharbia provinces the total length of the canals is 311 miles, while in the Behera province there are 101 miles; and in the Dagualia province 80 miles. This brings the total in the Delta up to 765 miles—nearly as great as the Nile between Cairo and Wadi Halfa. The great canal Youssef runs from near Assiut to the Fayoum oasis and is also navigable. Perhaps the most important canals are in the Beheta province—the Mahmoudia, 47 miles long, and the Rajah Behera, 51 miles.

The names of the seventeen companies navigating on the Nile and on these canals are as follows: Hamburg and Anglo-American Navigation Company, Thos. Cook & Son, Petsaly Coal Company, Cie. des Bateaux-Omnibus, Nile Transport Company, Egyptian Dredging Company (Limited), Express Nile Steamers Company, Nile Flotilla Company, Anglo-American Steamship Company, Vacuum Oil Company, Société Maritime du Canal de Suez, Sayed Bey Yassin & Co., Moustapha Eff. El Gammal & Co., Ahmed El Shumbary & Mahmoud Salama & Co., Behera Company, Menzala Canal and Navigation Company, and Delta and Upper Egypt Navigation Company.

TONNAGE AND TRAFFIC.

The tonnage and traffic carried under "Nouzha" Bridge on the Mahmoudieh Canal (about 5 miles from Alexandria) is presented in the table below. Most exports or imports which leave or enter Egypt by Alexandria and which are carried from and to the interior by water must use the Mahmoudieh Canal. The total tonnage upstream from Alexandria in 1907 amounted to 303,648 tons, against 341,385 tons in 1906, while the downstream traffic was 225,806 and 271,948 tons, respectively. A few of the principal commodities handled were as follows:

Downstream.	1906.	1907.	Upstream.	1906.	1907.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Cotton ginned	49,557	33,806	Coal	194,879	202,525
Cotton seed	95,268	94,311	Timber	28,846	18,609
Rice	5,407	1,107	Petroleum	1,503	889
Bricks	66,162	52,550	Piece goods	3,710	5,271
Cereals	9,478	10,880	Flour	20,227	15,734
Building materials	21,590	22,868	Metals	24,963	18,892
Straw and tibn	7,741	2,923	Cereal	11,535	839
Miscellaneous	16,745	7,361	Building materials	6,940	6,695
			Cement	9,928	10,101
			Manure	782	797
			Miscellaneous	38,072	23,296

A considerable amount of manure is carried downstream (northward) under Kas-el-Nil Bridge, Cairo. This amounted to 65,288 tons in 1906 and to 80,489 tons in 1907.

ENGLAND.

ADVANTAGES NOW POSSESSED BY PORT OF BRISTOL FOR AMERICAN TRADE.

According to Consul J. Perry Worden, at Bristol, the great Royal Edward dock, which was commenced in March, 1902, when the Prince and Princess of Wales turned the first sod at Avonmouth, was opened by the King and Queen of England, with royal festivities, in Bristol on July 9. The consul thus describes the new dock:

The dock has already cost some £2,500,000, or about $12,000,000, and it is believed will give Bristol, in her heroic struggle to win back her share of maritime trade, several advantages over her powerful and long-established competitors.

Bristol has for some years possessed docks of no mean proportions, that in the old city having a quayage of 5,000 yards and 83 acres of water area. The dock at Portishead has a lock 444 feet in length, with a width of 66 feet, giving 12 acres of dock area and 943 yards as the length of wharfage. The Avonmouth dock has a lock 485 feet long and 70 feet wide, and furnishes a dock area of 19 acres, with 1,600 yards of wharfage.

The new Royal Edward dock has a lock 875 feet long and 100 feet wide, and incloses an area of 30 acres, with a length of wharfage, at present sanctioned, of 3,730 feet. This splendid monument of British engineering, substantially and ornately built in every particular, is connected with the older dock at Avonmouth. Adjoining the Royal Edward dock is a new graving, or dry dock, 915 feet over all and 850 feet in blocks in length. The sides of the entrance are vertical and the dry dock is divided into two compartments, 550 feet and 300 feet in length, respectively.

With these docks combined, Bristol now has a total of 144 acres of inclosed and protected dock, with a corresponding area of quay space. What this means as an engineering feat, and how advantageous it should be to the merchant marine, may be inferred from the fact that, with the exception of the Bay of Fundy, the rise and fall of the tide at Bristol is the greatest in the world. The depth of water on the outer sill, mean spring tides, is 46 feet, and the depth at the mean neap tides is 36 feet.

AMERICAN IDEAS SECURED—NEW WORLD CONNECTIONS.

These new docks of Bristol should interest the American greatly, in part because they are built, in a sense, after American patterns (the docks manager having spent some months in the United States and Canada inspecting the latest patterns of dockage there), and because they will bring Bristol into closer touch with American ports. The distance from New York to Avonmouth is 3,014 miles, against 3,140 miles to Southampton and 3,046 miles to Liverpool, and since it is but a run of two hours by rail from London to Bristol, while it takes between five and six hours to make the journey from the metropolis to Liverpool, it is believed that it will be but a short time before a fast passenger and mail service may be established between Bristol and New York and Boston. While it is but 79 miles from London to Southampton, there is a considerable loss by sea in taking the Southampton route.

Bristol, too, has advantages over Southampton and London in its proximity to the south Wales coal fields. Bristol should be the

natural export outlet for Birmingham and the great industrial region round about there, as is shown by the fact that 70 to 80 per cent of Birmingham's imports now come in through the port of Bristol, and it will probably be only a question of a short time before the independent canal service between Bristol and the Birmingham district and the cheap railway service of four of England's best railways will direct a return of trade here.

American exporters wishing to reach Bristol and the southwest of England will surely do well to ship their freight direct. With its 220,000 cubic feet of refrigerators, its 2,402,379 square feet of floor space, and its granaries holding several million bushels, its scientific and sanitary lairages and abattoirs, Bristol is sure to come forward rapidly as a great English port. Canada has already taken steps to increase the shipping facilities between Bristol and her ports, and American shipowners can not afford to lag behind.

[Several photographs of the new dry dock at Bristol are filed at the Bureau of Manufactures.]

GERMANY.

TRAFFIC ON THE ELBE—IMPROVEMENTS AT MAGDEBURG.

Writing from Magdeburg, Vice-Consul James L. A. Burrell says that although the traffic on the Elbe does not equal that on the Rhine, it nevertheless takes the second place in Germany and is of great economic importance.

In earlier times the traffic was greatly impeded by the duties levied by the states and cities situated on its shores, and at the beginning of the seventeenth century 48 duties had to be paid between Melnik, Bohemia, and Hamburg. The shipping was not entirely free of duty until 1870, and modern conditions have only existed in the last few decades, as, besides the duties, the condition of the river in places was a serious hindrance to navigation. It is interesting to note that in the thirties of the last century the boatmen carried small metal hand dredges with them, so that they might not stick fast in the sand. A really successful canalization of the stream was brought about by the Prussian Elbstromverwaltung, which was established in 1867. There are now ships plying on the Elbe with a tonnage as high as 1,200.

The navigation here is a typical example of the modern tendencies toward consolidation and trust formation. Nearly all the traffic is now in the hands of the United Elbe Navigation Companies (Vereinigte Elbschifffahrtsgesellschaften), which have closed a contract with the other lines until 1916.

With respect to the goods shipped from Magdeburg, the greater quantity goes downstream and consists principally of sugar, fertilizer salts, wrought iron, etc. Upstream are shipped very small quantities of sugar and wheat. On the other hand, the quantity of goods coming upstream to Magdeburg is much greater than that coming down to this city.

The goods coming downstream are principally Bohemian brown coal and wood. Magdeburg annually uses about 200,000 tons of Bohemian brown coal and a much smaller quantity of German coal. The principal articles arriving from below are flour and other mill

products, oats, barley, and oil seeds. Hard coal also comes upstream, a great deal being shipped from England recently; also saltpeter and wood. American petroleum comes in tank steamers upstream and Austrian petroleum downstream. Important harbor improvements are projected by the municipal authorities.

FRANCE.

PROVISION BEING MADE AT LA ROCHELLE FOR LARGE SEAGOING CRAFT.

Consul George H. Jackson makes the following report on tonnage and harbor improvements at La Rochelle:

The shipping business at this French port has recently increased to such an extent that enlarged harbor facilities are a necessity. Extensive improvements, the first section of which is to cost $2,316,000, will be undertaken in the near future. When completed the new harbor will furnish abundant wharfage, docks, and two 1,000-foot dry docks. Ships drawing 30 to 33 feet may enter the harbor in perfect safety. There is to be a tide-water wharf, with water ranging from 35 to 45 feet, where ships may take coal direct from the cars. [A map of the harbor showing the projected improvements may be seen at the Bureau of Manufactures.]

The tonnage of the port in 1880 was 500,727; in 1900 it had risen to 1,475,666 tons, and in 1907 to 1,882,235 tons. The increase for the first four months of 1908, as compared with the corresponding period of last year, is 65,428 tons.

The lines of trade of south and western France and northern Spain are rapidly converging at this harbor, and with the completion of the contemplated improvements the largest ships afloat will find this a convenient port to frequent.

MEXICO.

COASTAL CANAL OPEN FROM TAMPICO TO TAMIAHUA.

Consul P. Merrill Griffith writes that among the important enterprises being carried on in Tampico and vicinity by the Mexican Government is the construction of the canal along the Gulf coast from Tampico to Tuxpam, which he describes:

The distance by the canal between the two cities is 120 miles, 66 of which, from Tampico to Tamiahua, have been completed by an American, who has been given the contract for the remainder of the distance, and the 200 laborers will be continued on the extension.

This undertaking will cost probably $2,000,000. The present equipment consists of five large dredges, two colliers, a 90-foot material barge, a large machine-shop barge, and a great number of house boats. The contract calls for a channel 5 feet deep and 40 feet wide, and the contractor expects to have the entire canal open for navigation within twelve months and finished within two years.

The soil of the country between Tampico and Tuxpam is exceptionally rich, and the agricultural resources have remained practically undeveloped for lack of transportation facilities.

The construction of this canal will materially augment the business of Tampico, as it will furnish convenient and adequate means for

marketing the products of the farms and ranches within the territory referred to as well as establish direct communication with Tuxpam, a city of 10,000 inhabitants.

Regular weekly boats are now being run through the canal between Tampico and Tamiahua.

STEAMSHIP LINES.

BRAZIL.

FACILITIES FOR PACIFIC COAST SHIPMENTS TO RIO DE JANEIRO.

Consul-General George E. Anderson, of Rio de Janeiro, advises that in connection with the establishing of a round-the-world passenger and freight service by a French line of steamships a large passenger and freight steamer is to sail from San Francisco down the west coast of South America, through the Straits of Magellan, and up the east coast of South America to Pernambuco, stopping at the principal ports. He adds:

This steamer service will be afforded once each six weeks for the present, naturally being increased in frequency as business justifies. The service is important to the Pacific coast interests of the United States in several respects. The dried-fruit trade, for example, ought to be given a good opportunity to get into this market by the convenience of making direct shipments in a modern steamer, something heretofore impossible.

There may also be something of an opportunity for lumber interests of the Pacific coast, for its flour mills, wineries, and other interests. The service in no way is to be compared with that for similar goods from Europe at the present time, but offers an opening which should be watched. Some dried fruits from the United States are sold here, but there has been much complaint of packing and condition, and the freight, after a transcontinental trip and transshipment, is a material item in the trade. The new service may avoid all such troubles. Practically no American wine is now sold here, and direct shipment facilities may afford the opportunity.

At present the steamship service referred to is all one way, and direct shipments from Rio de Janeiro to San Francisco are not to be had by it.

MEXICO.

CARGOES CARRIED BY BARCELONA LINE TO VERACRUZ.

Consul William W. Canada advises that the Compañía Transatlántica Española, of Barcelona, Spain, during the calendar year of 1907, brought to the Mexican port of Veracruz 12,500 tons of general cargo, of which amount 2,500 tons were reshipped to other Gulf ports. The total number of passengers carried was 3,576. During the same time the vessels of this company loaded at Veracruz for foreign ports 4,850 tons of cargo and carried 2,512 passengers. The service provides two steamers per month.

CHINA.

NEW COASTING AND TRANSPACIFIC LINES TO BE ESTABLISHED.

Vice-Consul-General George E. Chamberlin sends from Singapore the report that Chinese residents at Pacific coast ports are subscribing to a Chinese national steamship company which proposes to enter into the Transpacific carrying trade with a line to San Francisco or Seattle. The Two Kwangs Chinese Steamship Company has been formed as a patriotic concern; first to place a line of coasting steamers in service, then a Transpacific line, similar to the service of the large Japanese steamship companies. The Chinese guilds of South China are organizing the company, and agents are being appointed wherever Chinese are found in considerable numbers to sell stock for the company.

EAST INDIES.

GERMAN LINE DISCONTINUES PHILIPPINE-BORNEO SERVICE.

Consul Lester Maynard reports that the North German Lloyd steamship Tringganu, formerly calling at Sandakan, British North Borneo en route from Singapore to ports in the Philippine Islands, has discontinued the service and will in future sail from Singapore monthly for Saigon, Cochin China, Iloilo, Cebu, Bamboanga, and Jolo, and will then call at Sandakan en route to Singapore. The consul adds that the service from Sandakan to the Philippine Islands has been unprofitable, and as the two remaining North German Lloyd boats running from Singapore are large enough to carry all cargo to British North Borneo, it is not surprising that the vessel has been withdrawn.

CANADA.

RENEWED LIFE SHOWN IN THE DOMINION'S SHIPPING.

Consul F. D. Hale, of Charlottetown, notes from a recently issued Canadian blue book that the decline in the Dominion's shipping tonnage, which has been in progress for thirty years, has now been apparently arrested. Although 452 vessels were stricken from the registry list in 1907, there was a net gain; 392 new vessels, valued at $1,728,450, were built and others bought from abroad. The total value of Canadian vessels last year was $20,960,640.

JAMAICA.

STEAMSHIP SERVICE BETWEEN GALVESTON AND KINGSTON.

Consul F. Van Dyne, of Kingston, reports that he is in receipt of a communication from the Galveston Chamber of Commerce stating that the United States Shipping Company announced that from about July 15 they would establish a monthly steamship service between Galveston and Jamaica. It is further stated that the frequency of the sailings will be increased as rapidly as the business justifies.

RAILWAY SYSTEMS.

NORWAY.

DIFFICULT CONSTRUCTION OF NEW BERGEN-CHRISTIANIA LINE.

In reporting that on June 10 the first passenger trains were dispatched in each direction on the railway that traverses the great mountain barrier between Bergen, the chief city of western Norway and Christiania, Consul Felix S. S. Johnson points out the importance of this line:

It will probably take the Government at least a year before the enormous difficulties that nature places in the way of railway traffic in those regions have been completely overcome. The official inauguration ceremony will not take place before the broad gauge Bergen Railway has been joined to the Northern Railway leading into Christiania, probably in 1910. The newspapers signalize, however, and rightly, the event of these two trains as an important epoch in the history of the Norwegian Nation. Bergen, the next largest town in Norway, has been hitherto separated from Christiania, and therefore also from the international railway communication by a steamer journey of at least three nights and two days. After the transmountain railway has been joined a couple of years hence with the Northern railway, a journey of some twelve hours only will separate the two cities.

HISTORY OF THE UNDERTAKING.

When the first line of railways in Norway was decided upon in 1851, the trunk line from Christiania to Eidsvold on Lake Mjøsen, it was believed that it would remain forever the only railway in the Norwegian mountainous country. But only twenty years afterwards the Storthing decided upon the construction of a railway to connect Lake Mjøsen with Trondhjem, and about simultaneously the idea of connecting western with eastern Norway, across a vast tract of snow-clad mountains rising beyond 4,000 feet, was started in public discussion.

In the beginning of the seventies exploration work was commenced and on March 1, 1894, it was decided to build the Bergen Railway, and to-day the steel connection between Bergen and Christiania is all but completed, a part at the eastern link only remaining unfinished.

The new railway, which passes for 35 miles through regions of almost permanent snow and ice and which reaches an altitude of 1,300 meters (4,265 feet) above the sea level, will no doubt for a long time to come hold the record of the railway construction of the world as far as engineering and traffic difficulties are concerned; the Gravehals tunnel, in itself a great triumph of engineering skill, was cut through in nine years.

This railway, which is expected to show a surplus in its operation after a year or two, will be one of the principal tourist attractions of Norway and will completely change the traveling route in many cases more or less unhealthy.

CANADA.

LAYING OUT FORT CHURCHILL TOWN SITE AS RAILWAY TERMINAL.

Consul E. A. Wakefield, of Orillia, tells of the following Canadian initial plans for the development of Fort Churchill as the terminus of the Hudson Bay Railway:

The first move in the direction of establishing a new outlet for western exports to the seaboard via the proposed Hudson Bay route is now being made by the Government. A survey party is being sent out by the Interior Department to lay out the town site of Fort Churchill, the future metropolis of Hudson Bay and the terminus of the proposed Hudson Bay Railway. The future city will be located on the eastern side of the river, opposite the ruins of old Fort Prince of Wales, and across the river from the Hudson Bay Company's trading post. Plans and drawings of the harbor are also being prepared under the direction of the department.

The present population of Fort Churchill consists of four half-breed families, a mounted policeman, and one settler. The latter is the only man whose home is pitched on the future town site. He settled there with his wife before the area in question was reserved for settlement, and is therefore entitled to claim a free quarter section of 160 acres of city real estate.

It is expected that the Government measure providing for the construction of a railway to Hudson Bay will be introduced in the House of Commons at Ottawa shortly.

MEXICO.

GOVERNMENT LINES PLACE ORDER FOR STEEL RAILS WITH HOME MILLS.

Consul-General Benjamin H. Ridgely writes from Mexico City as follows on the steel-rail trade of Mexico:

One of the first material and somewhat startling results of the change in the Mexican tariff on steel and iron, which took effect on August 16, is the authoritative announcement that the National Railway Lines of Mexico have placed an order for 20,000 tons of new steel rails with the steel company at Monterey, Mexico. The big steel plant in question is reported to have been very short of profitable work, but this order alone means that it will be kept busy at least two years. It is intimated that the price paid was 60 or 65 pesos Mexican currency (from $30 to $32.50 United States gold) per ton. In any event, the placing of the contract has attracted wide attention, and it is recognized that American industry has thus lost an order which, at present United States prices, would have meant about $560,000.

It is clear that the action of the National Lines in awarding the contract to the Monterey company is in line with the present policy of the Government of protection for home industries.

Not only did the increase in the duties on steel give the National Lines a cause for their action, but the recent merger of the railroads, by which the Government assumes control of the great lines of the country, furnished another valid pretext for awarding the big contract to the Mexican company.

CHILE.

BUILDING OF LONGITUDINAL LINE, AND LARGER FISCAL BUDGET.

Consul Alfred A. Winslow makes the following report from Valparaiso on the construction of railways in Chile:

Work is progressing slowly on the 126 kilometers or 78.12 miles of railway connecting Osorno with Puerto Montt. It is to cost 11,086,460 pesos, or $4,046,558 United States gold, of which $713,325 is to be expended for bridges, of which a large proportion is to be steel construction. The contract calls for the completion of the road by June 1, 1912. Here ought to be an opening for rails and bridge materials. The work is being done for the Chilean Government, and the line when completed will form a part of the general north and south railway system, known in Chile as the Longitudinal, and in general as a part of the Pan-American Railway.

The Chilean Government estimates for 1909, now under consideration by Congress, call for an expenditure of $57,238,015 United States gold, against appropriations amounting to $54,829,264 for 1908. Of this, about $10,000,000 is to be devoted to the construction of new railroads and providing new rolling stock.

ASIATIC TURKEY.

CONSTANTINOPLE GOVERNMENT AUTHORIZES EREGLI-ELIF LINE.

The following statement concerning the extension of the Bagdad Railway was taken by Consul Ernest L. Harris from the Reform, of Smyrna:

The Turkish Government has authorized the Bagdad Railway Company to proceed with the building of the Eregli-Elif extension. There will be four sections, covering in all 525 miles. The Bagdad Railway will therefore pass near Aleppo. There will be a branch line to this city. As Aleppo is already connected by rail with Damascus, it will be possible for pilgrims to go to Mekka by the all-rail route, Haidar-Pacha-Konia-Aleppo-Damascus.

The first and second sections of the 525 miles of track will offer the greatest difficulties in construction. For instance, through the Taurus Mountains, up to Adana, there will be at least 56 miles of tunnels, viaducts, and bridges. From Adana the line will run through the Djihoun Valley up to the Amanus and Ghiaour-Dagh ranges, which will call for another 25 miles of similar works. The line will then reach Kiliss and Tel-Habesch, and from this point will start the branch to Aleppo. After leaving Tel-Habesch, the line will cross the Euphrates River at a point 15 miles south of Biredjik, and will then continue toward Haran to reach its terminus at Elif.

The difficult parts of the undertaking will be over after the Euphrates is crossed. It is estimated that the 81 miles of tunnels, viaducts, and bridges will average from $155,000 to $185,000 per mile. This heavy expense will be compensated by the relatively low cost of the level parts. The building of these four sections must be done in seven years. The cost of the 525 miles of railway will amount to about $45,000,000.

The Bagdad Railway will help the commercial, industrial, and agricultural development of the immense territories through which it will run, and will furnish outlets for the mineral wealth of the regions traversed.

MOTOR TRADE.

AUTOMOBILES AND BOATS.

FRANCE.

AN EXHAUSTIVE TEST OF INDUSTRIAL MOTOR VEHICLES.

Consul-General Frank H. Mason, of Paris, gives the following account of the recent competitive test of commercial and industrial motor vehicles, which he says was the most important ever made in France, and marks definitely the present trend of manufacture and technical progress:

During May there was held in France a competitive test of industrial motor vehicles, which, in its organization, purpose, and consummate management, furnishes an interesting and instructive example of the manner in which the leading French industries are fostered and encouraged by intelligent organization, with the recognition and support of the National Government.

The competition was organized by a commission of the Automobile Club de France, with the cooperation and support of the ministry of war, which sent a board of military experts to make the tour and gave a special prize of 8,000 francs ($1,544) for the best "camion" or transport wagon for military purposes.

It was the announced purpose of the competition to give to commercial and industrial motor vehicles of all classes the most exhaustive test which they have yet had to face in this country, and the regulations were not only strict and exacting to the utmost degree, but were enforced with unflinching impartiality and severity.

The competing vehicles were divided into nine classes, of which the first seven comprised cars of various types for the transportation of merchandise, and the last two, motor omnibuses and touring cars capable of carrying from 6 to 10 or more passengers, besides the chauffeur and conductor.

CLASSIFICATION OF ENTRIES.

The designations of the classes 1 to 8 were for vehicles carrying, respectively, from 100 to 410 pounds of merchandise; from 410 to 1,820 pounds; 1,820 to 3,150; 3,150 to 4,200; 4,200 to 6,300, and for more than 6,300 pounds. Class 7 included trains of freight wagons hauled by road locomotives. Class 8 was for omnibuses and touring cars carrying 6 to 10 passengers, and class 9 comprised those capable of carrying more than 10 passengers.

The dead weight for the freight wagons was supplied in the form of boxes of sand, each weighing 110 pounds, put up and sealed by the commission of the Automobile Club. The entries numbered about 80, and covered every size and type of vehicle contemplated by the schedule.

Nearly all the leading manufacturers who have built up the French automobile industry to its present position competed, most of them

with new vehicles designed or improved from previous types, since the overstocked and changing market of 1907 showed that the future of the automobile industry must lie more and more in the direction of commercial and industrial vehicles.

All being ready, the official weighing of the competing vehicles was accomplished on May 1 and 2. The third was devoted to a public exhibition of the whole equipment, and on the fourth the long procession of vehicles—each laden according to its class and carrying a commissioner-expert from the Automobile Club to supervise and control every detail—started on a prearranged tour which occupied twenty-seven days and covered a distance of about 3,500 kilometers, or approximately 2,175 miles.

GENERAL CHARACTER OF THE ROUTE AND COMPETITION.

The first day's run was from Paris to Rouen, from which point excursions were made on the 5th and 6th to Havre and Pont Audemer, respectively, returning each night to Rouen, where a public exhibition of the competing machines was held on May 7.

It was a fundamental condition of the competition that every vehicle should arrive at the designated point at the close of each day's journey, and be parked together in a guarded inclosure, where unauthorized repairs or the taking of additional supplies of oil, gasoline, and other materials would be impossible without detection.

On the 8th the journey was resumed and the competitors arrived in the evening at Amiens, where another series of excursions took place, and the train then proceeded to Lille, where, after three excursions, each occupying a day, an exhibition of the vehicles was held on May 13. The route then led to Rheims, from which place three daily excursions were made, and an exhibition held on the 18th; thence to Verdun, Pont-à-Mousson, and Nancy, where the same programme of excursions and exhibition was repeated. Thence the competing vehicles set out for Dijon, where the programme of three daily excursions over prescribed routes was again repeated; thence to Auxerre, and finally, on May 31, the long procession of dusty and travel-stained cars made the last stage of its journey from Fontainebleau and came rumbling into Paris, and were parked in the great machinery hall on the Champs de Mars, where they were kept under strict guard to await the examination of the awarding committees.

The daily runs had averaged about 150 kilometers (or 93.36 miles) for freight vehicles comprised in the first seven classes and 200 kilometers (or 124.48 miles) per day for omnibuses and touring cars of classes 8 and 9, to which had been assigned in each day's itinerary a separate and longer route between the points of starting and destination. The rate of speed was fixed from 10 to 12 kilometers per hour, and if any vehicle exceeded that pace and reached an intermediate point too soon, it was halted by the accompanying commissioner and held until the hour and minute when it should have passed that point if traveling at the prescribed speed.

SOME OF THE RESULTS.

A full discussion of the results obtained and the teachings derived from this exhaustive test would lead into technicalities, as well as personalities, which are outside the scope of a consular report. The

principal facts may, however, be summarized as follows: Sixty per cent of all the vehicles entered for the competition made the entire tour and returned in good working condition. This was a marked improvement over the result attained by a similar test in 1907. The standard of economic efficiency, in the relation of fuel consumption to speed and ton-kilometers, was higher on part of several vehicles than had ever before been achieved in this country. The total general average consumption of gasoline per ton-kilometer in 1907 was 0.091 liter (liquid liter=1.05 quarts), whereas this year the average was reduced by improved methods and motors to 0.043 liter.

Especially interesting in this connection was the record of nine fiacres, or motor cabs, built by several of the leading automobile makers of France, and which used as fuel alcohol, carbureted with a 50 per cent admixture of benzine. This mixture costs in France 33.7 francs per hectoliter, or $6.50 per 26.418 gallons—a little more than 24.6 cents per gallon. The cabs weighed from 1,592 to 1,722 kilos (3,510 to 3,796 pounds), and made during the tour a special test run of 112 kilometers (69.6 miles) in three hours and forty-four minutes, with a total consumption ranging from six liters costing 2 francs (or 38.6 cents) to 16 liters, costing $1.06 for the entire distance.

It is thus demonstrated that in France, at least, alcohol has a definite future as a fuel for commercial and industrial motor vehicles.

The principal prize offered by the minister of war was won by a covered wagon built by De Dion Bouton, which carried 8,514 pounds of dead weight, weighed complete, with crew on board, 14,272 pounds, and showed during a special test of 112 kilometers a fuel consumption of 0.0677 liters per ton-kilometer.

ELECTRIC MOTORS FOR BOATS.

AMERICAN MAKES MUST OVERCOME A DISCRIMINATORY TARIFF.

Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to explosive engines and electric motor boats in France:

Owing to the depression prevailing in the automobile industry in this country, several manufacturers have turned their attention to motor boats, taking a very small profit rather than close their works. This, in connection with the duties imposed upon foreign motors, renders it difficult for American manufacturers to make much headway in France at present.

The tariff upon imported engines is as follows: Weighing 250 kilos (551 pounds) or more, $2.47 per 100 kilos (220 pounds), if imported from the United States, but only $2.31 if imported from minimum tariff countries; weighing less than 250 kilos, $5.72 per 220 pounds, if imported from the United States, but only $2.56 if imported from minimum tariff countries.

Until recently there has been a widespread demand for low-priced gas engines, but at present electric power is supplied at the rate of 1.06 cents per kilowatt hour for industrial purposes, and as the current is distributed throughout the city and is becoming more generally available throughout the south of France, the present demand is for electric motors of every type, and particularly small ones.

commanding a price of $50 and thereabouts. Bearing in mind that American motors are dutiable at the highest rate, the scale of tariff duties is as follows, per 220 pounds:

Description.	Maximum.	Minimum.
Dynamo-electric machines, weighing 2,204 pounds and above	$5.79	$2.50-3.86
Same, weighing from 110 to 2,204 pounds	8.68	5.79
Same, weighing from 22 to 110 pounds	23.16	15.44
Same, weighing less than 22 pounds	28.95	19.30-21.23

If American manufacturers can overcome these discriminatory tariff charges, they will find in this region an excellent market for electrical machinery, and one which tends to increase from month to month. No apparent effort is being made, however, to dispose of American devices; no traveling representatives of our great companies are seen here; and only desultory efforts to build up trade by means of correspondence are heard of. The reputation of the United States, under the head of electric machinery, has been created and maintained in France chiefly by French branches of American concerns, who manufacture and sell their wares in this country, employing American ideas without any corresponding benefit to American labor.

A few useful addresses are forwarded, for possible correspondence, of builders and buyers of motor boats and dealers in electric motors. [List on file in the Bureau of Manufactures.]

AGENCIES FOR MARINE MOTORS.

THE BEST METHOD OF COMPETING FOR THE FRENCH MARKET.

Writing from Havre, Consul A. Gaulin says that American manufacturers could find a better outlet for marine motors in France if they entered the field on the same footing and exploited the markets in the way their French, English, German, and Italian competitors, who are constantly sending representatives and salesmen to visit the trade, solicit orders and supply demands. In a word, it would be necessary to have an agency in this country from which orders could not only be supplied promptly, but where the motors could be seen and their merits demonstrated.

NORWAY.

STATUS OF THE AUTOMOBILE TRADE—AMERICAN MACHINES POPULAR.

Vice-Consul-General Michael Alger, of Christiania, writes that, owing to the physical character of the country, Norway is destined to be but a very limited market for automobiles, to which he adds:

This modern means of conveyance has, nevertheless, to some extent, come into use in several parts of the country, both for practical purposes and for pleasure. There are at the present writing 87 registered motor cars in the country. The greater portion of this number is found at Christiania, which is the only place in the country where registration of motor cars takes place. Several of these cars are, however, not in actual service. The police department has charge of the registration. During the year 1907, 29 such entries were made.

Most of these are used for purposes of pleasure, but a few delivery *cars are also in* use. All of these automobiles have been imported:

about 25 are of American origin; the others are of French, English, and German manufacture. A few large machines of 35 to 40 horsepower have been imported, but most of the automobiles in Norway are of the smaller kind.

There is only one automobile factory in Norway, and its output so far has been limited to two small cars. The competition offered by domestic manufacturers is therefore of no consequence. The Norwegian import duty on motor cars is 12 per cent ad valorem.

CLASS OF MACHINES NEEDED.

The kind of automobiles most likely to find a market here will be those ranging in price from $900 to $1,500, about 20 horsepower, and well qualified to climb steep grades. Larger machines at higher prices will find but few buyers, inasmuch as there is only a small number of persons in Norway who can afford the luxury of expensive automobiles.

The intended utilization of motor cars for conveying passengers as well as goods in several country districts, especially along the most frequented tourist routes, offers a field for sale of automobiles in Norway. Such traffic is now carried on by horse vehicles.

In the district of Østerdalen, the principal valley of the country, several such automobile routes are now under contemplation. Likewise in the Trondhjem district, between the town of Stenkjär and Rødhammer, and in the Telemarken district, between Notodden and Sauland, automobile routes are to be opened in the near future.

Automobiles intended for the Norwegian market should be equipped with double tires—that is, with inner air tube and outer casing, which latter should always be provided with an outside metal cover for protection against the sharp crushed stone used in the paving of many of the roads; otherwise punctures will occur too frequently.

All chaffeurs must demonstrate their ability before they can obtain a license from the authorities to drive a car. Of such qualified drivers there are 121, 47 of whom were registered in 1907.

MOTORING DIFFICULTIES—CURRENT PRICES.

The strict rules and regulations laid down by the authorities for driving automobiles on the Norwegian highways continue to be a serious drawback to the development of the use of motor cars in this country. Every district has its special rules in regard to such matters; thus a new permit has to be obtained for each one to be traversed. In some districts automobile driving has been entirely prohibited; in other places only certain roads within the same district may be used, and then on certain days and at specified hours only. The explanation given is that the roads are too narrow for the safe passage of horse vehicles and motor cars at the same time. It should be remembered that some of the Norwegian public roads have a width of about 7½ feet only, and that they have many sharp curves.

That horses might become frightened and thereby cause accidents on the steep mountain roads has also been one of the reasons given for placing impediments against the automobile traffic.

New and more liberal rules, uniform for the whole country, as far as practicable, in regard to this matter, are now under preparation by a committee specially appointed for the purpose; but it will still take a

year or more before any new enactment will come into force, and until then the automobile trade must reckon with the rules of the present.

American automobiles have been well received here, and their many good points have been duly appreciated, but it seems that they range too high in price compared with European makes. Thus a British firm offers a 30-horsepower, 6-cylinder machine for $2,626, while an American 20 to 25 horsepower motor car costs $2,814. The terms of payment are also always in favor of the European manufacturer, who generally gives long credit to solid purchasers, while the American invariably demands cash on delivery, or at least against shipping documents here. [The names of firms handling motor cars at Christiania may be obtained from the Bureau of Manufactures.]

ITALY.

OPENING FOR AMERICAN STEEL MOTOR BOATS.

The following information concerning motor boats in Italy and the probable opening for American steel motor boats in that market is furnished by Consul D. R. Birch, of Genoa:

The motor boat of the future in Italian waters will be of steel construction, and a big business awaits the American maker of steel boats who will meet the demands of the Italian market. This is the information that comes to this consulate as a result of a canvass of the situation in this immediate section of Italy concerning the prospects of selling American motor boats.

At present the trade in them, either Italian or foreign-built, is almost at a standstill. The two manufacturers of this section are building only upon order. These makers express the belief that the Italian market has been fully supplied, perhaps overloaded, and that all those interested in motor boats have either already made their purchases or are awaiting the coming of a type more suitable to local conditions than those now to be seen on the Riviera. This new type, according to the prediction of dealers familiar with the desires of the actual users, is the boat of steel. There is but one steel boat now in use in these waters—an American craft—but the criticism is made that, while otherwise suitable because of its superior strength to resist the often turbulent seas of the Mediterranean, its appearance is not as attractive as it might be.

The foregoing pertains to the pleasure craft, as the boat for power purposes is as yet but little known in Italy. Much business might be done in the line of power boats by the American maker who will give some study to the needs of the Italian market. There are at the present time two barges plying between Genoa and Savona which have been fitted with motor power as auxiliary to sails, and these are reported to be giving satisfaction.

A local motor boat manufacturer, with offices in this city and an extensive plant in Varazze [address on file in the Bureau of Manufactures], solicits correspondence from American firms looking toward the opening of sales of American steel boats, and the manager of this concern is confident that some business could be done in both power and pleasure boats. This factory has constructed many boats now in use on the Mediterranean between Genoa and [illegible] is at present completing two large passenger motor [illegible]ed on the canals of Venice, to compete with gondolas.

GERMANY.

AUTOMOBILES AND MOTOR BOATS IN BRESLAU.

Consul Herman L. Spahr furnishes the following information concerning the probable market in Breslau for American automobiles and motor boats:

Breslau ought to be as good a field for the sale of American automobiles as other German cities. Among its half a million people there is a large wealthy class. The streets, wide enough for traffic, are well paved, and excellent roads radiate in all directions. There is strong competition, however, and success will depend on prices and methods. In addition to the pleasure cars, a number of taximeter automobiles are in use and many business wagons.

Besides the police boat, there are two motor launches on the river. The Oder is well adapted for such craft. The river commerce is carried on by flatboats, tugs, and chains. A small fleet of steamers carry passengers up and down. The boat builders named herewith [list filed in the Bureau of Manufactures] make mostly flatboats, rowboats, etc. (very few motor boats), but they might be interested in the cheaper American motor craft. There are two large rowing clubs here, which have annual racing meets.

Correspondence in English would be of little use. If the sending of salesmen is impossible, letters in German, with prices quoted in marks (1 mark = 23.8 cents) and an estimate of the cost delivered in Hamburg, might be effective.

MOTOR VEHICLES IN SAXONY.

INCREASING USE OF AUTOMOBILES AND MOTOR BICYCLES.

Consul Thomas H. Norton, of Chemnitz, reports that the use of automobiles and motor bicycles is increasing rapidly in Saxony, as the following statement showing the number registered in January, 1907 and 1908, proves:

Description.	1907.	1908.
Automobiles	805	1,352
Motor bicycles	1,416	1,907
Total	2,221	3,259

Of the total for 1908, 1,580 were used for technical and business purposes, 302 by physicians, surveyors, etc.; 60 are autocabs and 1,182 are used for recreation or sporting purposes. The autocab makes slow progress in replacing vehicles hitherto in vogue. There are only 6 autocabs in Chemnitz. Injuries due to automobiles and motor bicycles, though still large, are decreasing.

GREECE.

AMERICAN CATALOGUES DO NOT GIVE SUFFICIENT INFORMATION.

The following information concerning motor boats and automobiles in Greece is furnished by Consul-General George Horton, of Athens:

The following copy of a letter written by an Athens firm should be of considerable interest to American manufacturers. These

people make the interesting criticism that the catalogues and advertisements of motor boats sent them from the United States contain little necessary information, and for this reason they have been obliged to ask the question in the following letter. The United States, they say, is a long way off, and by the time they get through corresponding the opportunity for a sale is often lost.

We have received two letters from you with regard to your speed boat engines, and we are now on the market for an engine of this class, 12 to 14 horsepower, and we should be pleased if you will let us have more particulars with regard to your engines, answering the following questions:

(1) Do your engines run noiselessly? (2) What do they run with—benzine or what? (3) What quantity of fuel would a 12 to 14 horsepower engine consume per hour, and if a 14-horsepower engine were run at a less pressure, what economy in fuel would there be? (4) Would a boat 32 feet long, 6¾ feet broad, and 3 feet deep be suitable for one of your 14-horsepower machines; and if not, what would be the suitable size? (5) What would be the price of one of these machines either f. o. b. New York or c. i. f. Piraeus? (6) What would be the speed obtainable? (7) Would you accept payment for the machine after trial?

We would deposit the value of the machine with any bank here indicated by you against delivery of the shipping documents, and the money would be remitted to you by the bank after the machine had been tried and had given satisfaction.

To our knowledge there are at least six such machines wanted here this summer, and if yours is seen and liked we shall be able to obtain the orders for them all for you.

AUTOMOBILES BEING IMPORTED—CUSTOMS DUTIES.

A society recently formed has already imported six automobiles, viz: (1) For passengers, double phaeton, 50 horsepower, 6 cylinders; (2) Limousine, 18–24 horsepower, 4 cylinders; (3) demi-Limousine 24–30 horsepower, 4 cylinders; (4) coupe, 14–18 horsepower, 4 cylinders; (5) freight wagon, 3-ton, 20–22 horsepower; (6) freight wagon, 4-ton, 20–22 horsepower, 2 cylinders.

The company hopes to sell other wagons, passenger and freight, to be used for communication between points not connected by railway. The company maintains a garage with complete installation of machinery for repairs. They use American tools and oils, brought from France. The duty on automobiles and baggage is 10 per cent ad valorem; on accessories, 10 per cent.

SCOTLAND.

MOTOR BOATS AS LIFE-SAVERS AS WELL AS FOR PLEASURE CRAFT.

Consul Maxwell Blake, of Dunfermline, submits the following report concerning the various uses to which motor boats are applied in Scotland:

The motor boat is gradually gaining in favor along the Scottish firths, as was recently indicated by the proposal of a lifeboat institution to place in commission a motor lifeboat at Broughty Ferry on the Firth of Tay. Considering the importance and difficulties attending the rescue of human life at sea, the fact that a motor lifeboat has been decided on for such work is the most practical kind of an indorsement of the merits of the marine combustion engine.

Not long ago the Scottish Marine Motor Club was organized, and is now actively engaged in exploiting the motor boat for river and *inland lake pleasure* and sport, and reliability trials have been insti-

tuted toward publically demonstrating the utility, economy, and reliability of the motor boat under any and all conditions. On July 17 to 20 the first official trials will be held by the organization, and both medals and certificates of performance will be awarded and issued for the fastest boat, on M. M. A. rating, as well as to the most economical boat, irrespective of its class. The Scotch makers of engines are putting forth special efforts this season, owing to the growing English competition.

From trustworthy sources I understand that there are not at the present time probably more than 500 motor boats in all Scotland, which is surprisingly few when one considers the splendid opportunities for their use along the numerous estuaries, almost innumerable canals, and picturesque inland lakes, which annually attract a great influx of tourists and sportsmen.

The Dunfermline consular district extends along the Firth of Forth for a distance of about 50 miles, but this particular region of water front is less adapted to motor-boat traffic than some other more favorably sheltered situations, especially along the west coast. This district is therefore hardly a proper one in which to establish a distributing center, although agencies could be opened at the following places: Aberdour, Kirkcaldy, Burntisland, Kinghorn, Stirling, and Alloa. Not much, however, could be promised in these places in comparison with opportunities along the west coast.

ROUMANIA.

FIRST ANNUAL RACE MEETING AT THE CAPITAL CITY.

Consul-General Norman Hutchinson, in reporting from Bucharest on the inauguration of automobile races in Roumania, calls attention to the probable opening for the sale of American motor cars in that country:

The Automobile Club of Roumania, of which Prince George Bibesco is president, held a very successful race meeting on April 28, on a course more or less rectangular in form, 6 kilometers (kilometer = 0.62 mile) in length, situated on the outskirts of the city. As it was a religious fête day some thousands of persons attended the meeting, which must be considered as a historic automobile event for Roumania, as it is the first meeting of the kind ever undertaken. It resulted successfully financially.

To the American exporter of automobiles this meeting and the classes of cars entered should be an index to a new market for their machines. The races were as follows, one machine at a time: Berlist machine, 40 horsepower, 6 times the course of 6,670 meters, 36 minutes 11 seconds; Mercedes, 75 horsepower, Prince Bibesco, one stop, same course, 33 minutes 11 seconds; Dietrich, 60 horsepower, same course, 32 minutes 56 seconds; Mercedes, 45 horsepower, same course, 36 minutes 25 seconds; Pipe of Brussels, 80 horsepower, same course, once round, 4 minutes 56 seconds.

The races were of two classes, machines of above 45 horsepower and those below. Undoubtedly a better meeting will be arranged for next year, and American cars should make themselves known.

[A list of the motor-car dealers at Bucharest and other Roumanian cities may be obtained from the Bureau of Manufactures.]

STRAITS SETTLEMENTS.

MOTOR CARS FOR MUNICIPAL PURPOSES IN SINGAPORE.

Vice-Consul-General George E. Chamberlin furnishes the following information concerning the question of substituting motor cars for horse transport in Singapore:

At the beginning of the year the municipal commissioners of Singapore purchased two 12–15 horsepower five-seated motor cars, which were handed over to the president of the commissioners and the municipal engineer for their use with a view to reporting whether it would be advantageous to substitute motor car for horse transport. After six months' running a report was made on the cars and the finance and general purposes committee was considering at the end of the year what officers should be provided with motor transport and on what terms cars should be granted.

There is no doubt as to the utility of a motor car for an officer who has long distances to travel, but the initial cost is high, and the difficulty has been to meet the views of certain officers to whom motor transport would be useful, and at the same time exercise due economy in the administration of the municipal fund. The saving of time gained by the use of mechanical transport is enormous, but the type of car first obtained, though it has given admirable results, is too expensive for general application, and the cars are more powerful than necessary in a city like Singapore, where the streets are practically level and the roads in the surrounding country good, with only slight grades.

ASIATIC TURKEY.

AMERICAN MACHINES THE FIRST TO ENTER PALESTINE.

Apropos of the trip of American tourists who were the first to enter Palestine with a motor car, the consul at Jerusalem, Thomas R. Wallace, reports, under date of April 15, 1908, that the tour was made with ease, even roads that had been pronounced impracticable for motor cars being traversed without difficulty. He says that great interest has been aroused throughout the district, and that a number of people are talking of investing in cars. He recommends a light, strong car, with good clearance, a good hill climber, and of medium price, and suggests that a repair and supply shop would add greatly to the chance of sales. At present permission from the Turkish Imperial Government must be obtained to travel through the country in motor cars.

BRITISH INDIA.

TRADE OUTLOOK FAVORABLE FOR AMERICAN MOTOR BOATS.

Consul-General William H. Michael, of Calcutta, reports as follows concerning the introduction of American motor boats at Bombay:

There is an agency in Bombay which handles a steam motor boat manufactured in the United States. The first boat behaved so well in the bay under every kind of test that it found an immediate purchaser, and the firm ordered six additional boats immediately. The firm agrees to put boats sold by them in the water, see that they they *go all right,* instruct the purchaser how to manage the boat, and to

take care of needed repairs. With this understanding persons are willing to buy, and the trade will increase steadily. A company in Calcutta also handles boats made by the same American manufacturers. These boats take well and give excellent satisfaction. This Calcutta firm also handles a motor boat made in England, of a larger class, but it does not compare in point of beauty of lines and finish with the American boat.

CEYLON.

NO OPENING FOR BOATS—AUTOMOBILES ARE NEEDED.

Consul E. A. Creevey, in the following report from Colombo, tells in what lines and in what way the motor trade can be extended in the island of Ceylon:

There is practically no opportunity for the sale of motor boats in Ceylon. At present there is but one motor boat in use in the harbor of Colombo, and there is no prospect that others will be employed. This boat, which is of American origin, was brought here from an East African port, and it is used but little. Traffic between shore and ships is conducted in large steam launches, capable of carrying upward of one hundred passengers, and in heavy freight boats propelled by sweeps in the hands of natives.

There is absolutely no use for motor boats for pleasure purposes, as there is no room in the harbor for pleasure cruising, and outside the harbor there is smooth water only between the monsoons, and then the heat of the day is too great for comfort, while there is a minimum of twilight.

Although efforts to exploit Ceylon as a market for motor boats have been made by British and other foreign manufacturers, none has yet been able to discover to the people of Ceylon any opportunity to use them, or any advantage which might accrue from their use, either for commercial purposes or for pleasure.

TYPE OF AUTOMOBILES NEEDED.

At present there are a few less than two hundred automobiles in service in Ceylon, only one of them of American make. It would appear that there is need for several hundred more machines here, but whether the need would be recognized by those expected to purchase is a question.

The field which it is believed could be developed profitably by automobile manufacturers lies in the tea and rubber estates, of which there are about 1,200 on the island. Each estate needs an automobile, but as yet very few of the proprietors have taken steps to meet the want.

The machine required in Ceylon should be a good hill climber, of moderate cost, and economical in operation. The vast majority of the plantations are situated in the mountains, and are reached by narrow, almost spiral roads, with heavy grades and sharp turns. It should be simple of operation and so constructed as to respond quickly to the touch of the chauffeur, as the driver of a car on a Ceylon mountain road is liable at any instant, in making a sharp turn, to find himself confronted by a heavily laden buffalo cart occupying the whole width of the road, and with a rocky wall on one side and a precipice on the other. The Colombo price of gasoline is 50 Ameri-

can cents per gallon, hence a successful car in Ceylon would necessarily be one using the minimum of that fluid.

SALES METHODS.

If the American automobile manufacturer entertains the idea that his machine may be sold in Ceylon by catalogue, let him dismiss that idea forthwith. Automobiles may be sold here only as the result of demonstration. The manufacturer, though he be thoroughly satisfied of the excellence of his car, can not expect a contemplating purchaser, 10,000 miles or more removed from the sight of that car, to understand its capability as he does himself, with nothing but a printed catalogue to guide him. He should remember that in the development of his car he himself refused to accept the statement of his factory foreman as to the performance of any part of it, and was convinced of the truth only after the car had been taken out over the road and the working of the part referred to demonstrated.

The American automobile manufacturer contemplating the capture of the Ceylon market should begin by sending out a representative and a fair sample of his machine, authorizing his representative to assure a purchaser that a supply of parts would be kept at Colombo. This last consideration is essential in the case of a machine the various parts of which are not standardized, as it is not to be assumed that a resident of Ceylon would knowingly place himself at the disadvantage of having to wait for a substitute part of his machine, in case of damage by accident, to be shipped from the United States. [The three concerns in Ceylon handling automobiles are listed at the Bureau of Manufactures.]

AUSTRALIA.

A MARKET FOR AMERICAN MOTOR CARS THAT NEEDS EXPLOITING.

Consul Henry D. Baker, of Hobart, furnishes the following information concerning the working up of a trade in American motors in Australia, particularly in Tasmania:

As the duty on the chassis for motor cars imported into the Commonwealth of Australia has been reduced from 35 to 5 per cent ad valorem, an opportunity seems open for increased sale of American motor cars in this colony. The former duty was 20 per cent ad valorem on all imported automobiles, inclusive of both body and chassis. The new tariff raised this duty to 35 per cent, but a later amendment, while leaving the 35 per cent duty on the body of the car, reduced the duty on the chassis to 5 per cent and made the English chassis free. As by far the greater part of the value of most motor cars, probably two-thirds, is comprised in the chassis, it is thus evident that, considering the motor car as a whole, a substantial reduction has been made in the duty. The chassis need not be separated from the body of the car in shipping it, but on arrival at destination the value of the chassis will be separately appraised.

HOW THE AMERICAN CAR IS HANDICAPPED.

Tasmania is a country of fine scenery and exceptionally good roads, and, now that the tariff on foreign cars has been materially reduced, would probably prove a good field for American motor cars if only *American manufacturers* had agents in Hobart, or even in Mel-

bourne, competent to explain their advantages as compared with the better-understood cars of English and French manufacture, which are represented by direct agents, and if only there were a few American mechanics here competent to do whatever repair work is necessary, and if proper facilities could be afforded of replacing parts which may become broken or worn out. The Tasmanians, while admiring the design and construction of American cars, know that they would have to rely on themselves to keep such cars in order, and that if anything should go wrong with certain parts it might take months for new parts to be obtained, owing to the fact that most American automobile manufacturers have made no adequate arrangements to promptly supply needed parts to users of their machines in this part of the world. The facts that American cars are not fully understood in Tasmania as compared with the English and French cars, and that the parts are difficult of replacement or repair, have created a strong prejudice against them. Moreover, most of the automobiles in use here which have come from the United States are cheap cars, well worth what they cost, no doubt, but which are unfortunately compared with the higher grade and more expensive English and French cars. It does not appear to be appreciated here that American cars selling for $2,000 and upward possess equal if not superior merit to the high-grade cars of the countries named. The first motor cars which ever came into Tasmania were cheap American makes, which met with poor success on the hilly roads of the island, easily got out of order, and were difficult to repair, thus creating a prejudice against them which will take time and work to overcome. More recently, however, some improved kinds of cheap cars have established a favorable reputation for themselves, and especially distinguished themselves in a reliability race between Launceston and Hobart last November. Five of these cars, 9 h. p., were entered for the race, and four received certificates, their time ranging from five hours and four minutes to five hours and fifty-eight minutes for the 120 miles, which is a good average, considering the roughness of the country.

If a few good garages managed by American mechanics could be established in Tasmania, it would probably result in greatly helping the sale of American cars throughout the Commonwealth of Australia, as well as in Tasmania itself.

AUTOMOBILES SUITABLE FOR THE COUNTRY.

In manufacturing automobiles for export to Tasmania it would be well to build millimeter size wheels, and also use millimeter threads for the spark plugs, avoiding the "freak" plugs, as it is hard to get parts in Tasmania other than millimeter sizes. It is always possible to procure here French but not American plugs. It is the same as regards tires. Also it would be well to fit out cars for use in Tasmania with high-tension magnets and accumulators with dual ignition, as most of the English and French cars are fitted out this way, and the motorists here have become accustomed to them; and it should be remembered that Tasmania is not a country where it is possible to procure good dry cells at any time, as they are nearly always stale by the time they reach the Tasmanian consumer.

The motorists here, as a rule, do not appear to favor high or even moderate powered cars. An American car owned by an American in

Launceston is the highest power car in Tasmania. The cars which are most popular are between 10 and 18 horsepower, with multiple cylinders, not less than two and preferably four, with clutch and sliding gear transmission, not the planetary as fitted to most medium American cars. Again, they must be able to seat at least four, as the two-seated runabout is evidently not at all popular here. It is not easy to buy in Tasmania gasoline of the good quality used in the United States. The usual motive power is naphtha, known locally as "motor spirits," most of which is only about 68 proof, and the best of which is only 72 proof, though according to the instructions in the catalogues of some American cars it should be 76 proof.

MOTORING TOURISTS IN TASMANIA.

About 25,000 tourists from the mainland of Australia visited Tasmania during the recent summer season, and a number of them brought their cars with them. The metal roads of Tasmania, built originally by convicts, are superior to most of the roads of the mainland of Australia, though they are very hilly, and make many very sharp turns. As the country is thinly populated, and settlements, as a rule, few and far between, it often involves extraordinary inconvenience when there is a break down. The most popular route is between Hobart and Launceston, 120 miles, from the south to the north of the island. The roads on the east coast of the island, where the scenery is exceptionally fine, are also quite popular with motorists. As Tasmania is active in advertising its attractions for tourists, the number of motorists coming here for the summer season will probably increase from year to year.

BRITISH SOUTH AFRICA.

RAPIDLY INCREASING USE OF MOTOR WATER CRAFT IN NATAL.

Consul Edwin S. Cunningham, of Durban, advises that the conditions in Natal in regard to the motor trade have not materially changed since his report of last year, to which he adds:

The twelve months have justified the prediction that a considerable number of petroleum motors would be sold for use principally in pleasure boats, though the number installed locally and on interior lakes has been larger than was expected. On one small lake far up country four American motors have been installed in ferryboats, while as many more pleasure boats have been similarly equipped. In pleasure boats on the bay at Durban have been installed two (different makes) American, 7-horsepower, double cylinder engines during the past year. A similar boat has been equipped with a well-known English motor.

PROMISING SALES OUTLOOK.

The year has been one of activity in the motor engine trade, and, while the field is not an extensive one, it is certain that during the next twelve months a greater number will find sale than during any corresponding period previously.

The bay at Durban is large, well protected, and most picturesquely beautiful, affording at high tide as charming a course as can be

desired for the pleasure motor boat; races over 10-mile courses are weekly occurrences, and the protection given by the breakwater enables angling to be carried on even to the mouth of the bay without danger.

There are some 12 ferry motor boats in the harbor, two deep-sea fishing boats equipped with petroleum motors, and an already very large number of pleasure boats. The pleasure boat offers by far the best field for new sales, and an increasing number of small engines of this class can be sold both at Durban and for use up country.

COMPETITION AND MISTAKES.

The trade at present is largely American, about 75 per cent of the engines being of American makes. The most active demand is for American engines, chiefly Palmer & Ferro, though an English make has been making a strong effort to control the trade and to advertise their motor a first-class pleasure boat has been built for use on the bay, the manufacturers having made liberal allowances to the owners. It is apparent that such a scheme will do more to get a motor favorably before the public than any other manner of advertising.

Several engines have been ordered by intending users direct from the manufacturers, and the experience of at least one has not been such as to encourage repetition. An official of the Durban Corporation ordered a 4-horsepower engine which he saw advertised from a Detroit maker on December 15, 1906, remitting at the same time $72 in full payment. The order was promptly acknowledged, with promise to ship not later than end of February. Under various excuses it was not shipped for several months, and it was only received in Durban at the end of October, 1907. This is an extreme case and not of a well-known make, but complaint of considerable delay is made against other manufacturers. An order for a boat and engine by another person was equally unsatisfactory, a great delay in shipping was followed by insufficient packing, resulting in considerable damage to the boat. [Dealers in and small builders of motor boats at Durban are listed at the Bureau of Manufactures.]

BRAZIL.

AUTOMOBILE AND MOTOR-BOAT TRADE IN SANTOS REGION.

Consul John W. O'Hara, writing from Santos, gives the following information on the trade prospects for motors in southern Brazil:

The market in this part of Brazil is very limited for the sale of automobiles, owing to the condition of the public highways. Santos has but one automobile, and its use is necessarily confined to the city proper, as there are no roads leading into the interior upon which an automobile could be operated with safety. The streets of the city of Sao Paulo and the roads in the immediate vicinity are in good condition and many machines are in use, but on the country roads they can not be used with safety, comfort, or convenience. Still, there is some demand, and American machines are popular as long as they can be kept in repair. The chief trouble is to get the necessary parts and repairs when needed. It is very difficult to obtain any

definite statistics, as automobiles, motor boats, etc., are all included under the same classification.

GOOD OPENING FOR MOTOR BOATS.

There is a good market for motor boats in this city and along the whole south coast of Brazil, if the American manufacturers will give it their proper attention. There are 21 such boats now in use in this port, and nearly all are of American manufacture. But if the reports of the purchasers be true, the manufacturer has taken no pains to extend or even to hold the trade in this market. In the first place a boat will be sent to a purchaser who has paid his money through an export agency before the boat has been shipped from New York, and then the manufacturer gives the matter no further consideration. He does not even take the precaution to send full instructions as to how the parts should be adjusted or the boat operated. He does not seem to appreciate the benefit to be derived in advertising, by the successful operation of a new boat, or care for the results of a failure.

The local agent usually knows nothing about the construction or operation of a motor, and the purchaser must employ a local machinist, if he can find one, who demands a fee that is discouraging to the owner, or perhaps condemns the motor because it is unfamiliar to him. It is a difficult matter to secure the services of a competent machinist here.

I have spoken with a gentleman of experience in this city in relation to the sale and use of motor boats in this market, and he says that he has already purchased 5 boats of different styles and sizes from American makers, and he has invariably had trouble with them; first, because proper diagrams and instructions did not accompany the boat; second, because he could not purchase supplies in this country when he wanted them; and third, because the freight rates from New York were about double the rates from Europe. He said that he paid 1,200 milreis, or $360, freight from New York to Santos on a 26-foot launch recently purchased, and that by reason of the high freight rates he was compelled to pay more customs duties, as the duty is calculated at 7 per cent of the cost and charges. But he says that the American motor boat is so much superior in construction to any other that he still patronizes American makers.

MARKET IN OTHER COAST CITIES.

Of course the needs of this market are limited by the size of the city, but with proper attention I think that a great many motor boats may be sold and the market be extended to the coast cities south of Santos, Rio Grande do Sul, Porto Alegre, Pelotas, Sao Francisco, Joinville, Paranagua, and Antonina. There are at least 100 miles of smooth available rivers in the vicinity of Santos, and at Rio Grande do Sul is the Lago dos Patos, 60 by 30 miles in extent. The most popular boats are those ranging in length from 16 to 21 feet.

The only way to secure this market and to hold it is to establish a central agency with an American manager and mechanics who understand how to adjust, operate, and repair a motor boat. This establishment should carry a line of supplies, and they should be sold to customers at the most reasonable prices possible. It should be made *a rule that* every boat coming to this market is properly adjusted, *explained, and* started. An arrangement might be made with some

hardware or implement dealer for space for supplies and repairs, and thus save expense. As to the freight rates, if they are, as reported, so much higher from New York than from European ports, this matter could and should be adjusted by the manufacturers and not left to their export agents. [The names of dealers at Sao Paulo and Santos who might be interested and to whom catalogues might be sent may be obtained from the Bureau of Manufactures.]

RIO DE JANEIRO MARKET.

TRADE POSSIBILITIES FOR AMERICAN MOTORS AND MOTOR BOATS.

Consul-General George E. Anderson furnishes the following information concerning the trade in motors and motor boats in Rio de Janeiro and the best manner of enlarging the American trade therein:

While the general condition of the trade in motors and motor boats in Rio de Janeiro is not very promising, reflecting in a way conditions of trade generally, the record of the past year in the trade has been somewhat more satisfactory to the United States than previous years. The imports of motor boats from the United States are still very irregular, and it may be said that there is no regular trade in them, but this is also true of boats from other countries. Importers in Brazil are commencing to appreciate the possibilities of the trade, however, and, on the other hand, American manufacturers are commencing to appreciate the fact that American boats can be sold here. Several have secured agents who will sell goods in increasing quantities in the near future. Nothing is to be expected in this field by correspondence.

There will not be the largest possible sale of American boats here until some American manufacturer makes arrangements for the maintenance of a stock of boats in Rio de Janeiro, to be kept up by cable orders, and to do this American manufacturers will have to be willing to give agents more liberal credit and other terms than have been so far afforded. The matter of price is of comparatively little importance, although, of course, as between two boats of equal merit the cheaper will be taken. American boats and motors are well received, and there ought to be no difficulty, with proper efforts, in securing a preponderance of American boats in the local trade.

The increasing number of motor boats on Brazilian waterways, especially in Rio de Janeiro harbor, is a constant stimulus to the trade. That any American business is done here at all under present methods is remarkable. The first need of American boats, motors, and equipment here is that of active agents. Without them trade will be small, irregular, and unsatisfactory.

COLOMBIA.

PETROLEUM MOTOR BOATS MOST SUITABLE FOR THE MARKET.

The following information relative to the use of gasoline and petroleum boats in Colombia is furnished by Consul Isaac A. Manning, of Cartagena:

Opportunities for the sale of motor boats are apparently good here, although the present unsatisfactory ec omic conditions, causing a shortage of purchasing ability, ll ; make the field so good as

under normal conditions. It is hoped, however, that present conditions will soon improve.

The demand here seems to be more largely for boats using crude or refined petroleum as fuel, and those in use here are principally of this character. Four or five firms in this city have engines using crude petroleum and refined kerosene, and a Monteria merchant has a petroleum boat, which he uses for passenger service on the Sinu.

Two American companies use open sea and river gasoline boats in connection with their logging camps where they are getting out cedar and mahogany. The master mechanic of the Cartagena railway has two gasoline boats and a "track automobile," using gasoline. The other gasoline boats which have been brought here have proved very unsatisfactory, perhaps from lack of knowledge of their intricate machinery, as well as from the difficulty of getting gasoline and batteries for supplying these boats. These two latter difficulties are encountered by all owners of gasoline motors here, as gasoline is very expensive, and but few opportunities offer for its importation. Extra batteries are not on sale here and must be brought from abroad. Gasoline pays a high tariff duty.

Crude petroleum is easily imported, and is kept constantly on sale, enjoying a heavy differential tariff over both gasoline and refined kerosene. This fact and the greater simplicity of the petroleum motor make this style of motor far more satisfactory and in greater demand. The boats of this class in use here seem to be giving excellent satisfaction.

In this line of trade, as well as in many others, traveling salesmen, speaking Spanish, could accomplish a great deal more in a few days of personal effort than can be done with catalogues. If the latter are to be sent, they should be in the language of the country.

ALCOHOL VERSUS GASOLINE.

COST THE ONLY BAR TO THE USE OF ALCOHOL AS A MOTIVE POWER.

In reply to inquiries from the United States, Consul-General Robert P. Skinner, of Marseille, furnishes the following information relative to the status of alcohol and gasoline as power producers in France and the efforts which have been made toward the general use of the former:

Real and rapid progress has been made in overcoming past objections to the use of alcohol, and when the price of denatured alcohol is somewhat lower than the price of gasoline, it can be substituted for the latter, both for automobiling and general power purposes. Former reports showed that the high cost of alcohol, excessive consumption, and the resulting oxidation of mechanical parts had not been counterbalanced by any discoverable advantages. How seriously these problems have been attacked may be judged from the expression of an informant—perhaps the most important French manufacturer of carburetors—who writes under date of March 28, 1908:

We esteem the question of the industrial use of the alcohol motor as definitely resolved, and the carburetors created in view of this utilization have given satisfactory results. The use of alcohol will become more advantageous

when an understanding is brought about between the producers, whereby prices shall obtain some fixity, and when the State shall have solved the question of the denaturing agent.

If ingenuity has mastered the material difficulties in the way of substituting alcohol for gasoline, commercially the problem is almost as insolvable as ever; and if it is insolvable in France, where gasoline is dear and alcohol relatively cheap, it must be still more so in the United States, where gasoline is cheap and alcohol dear. Nevertheless, with raw material available for the manufacture of alcohol in every country under the sun, and with very few gasoline producing centers, it is hardly venturing too much to assume that ere many years there will be a permanent and general use of alcohol as a source of motive power.

COKE GAS COMBINED WITH ALCOHOL.

The one serious and sustained practical experience with alcohol as a driving force in France is that of the Compagnie Générale des Omnibus de Paris, the heavy public vehicles of which traveled 2,218,291 miles between June 11, 1906, and November 1, 1907, propelled by a mixture of 50 per cent of carbureted alcohol and 50 per cent of benzol. Benzol, it may be added, is of recent manufacture in France, where it is obtained by the condensation of gases recovered from coke. The company named is more than satisfied with its venture and proposes to continue the use of this mixture.

This experiment is conclusive in its material aspects, but it is successful commercially only because of the artificially high price of gasoline in the city of Paris, brought about by the imposition of an octroi tax of 20 francs per hectoliter ($3.86 per 26.41 gallons). The effect of this municipal taxation is such that in Paris gasoline was worth in November last 56 francs per hectoliter ($10.81 per 26.41 gallons) against 39 francs ($7.52) for carbureted alcohol, the octroi duty upon which is only 5.10 francs (98 cents) per hectoliter. These octroi taxes vary greatly in different municipalities, and leaving them out of consideration, the general price of gasoline in France last November was 36 francs ($6.95) per hectoliter and that of carbureted alcohol 33.90 francs ($6.54). Though the advantage as to price is apparently with carbureted alcohol, it must always be remembered that the consumption of this fuel exceeds that of gasoline by about 5 per cent.

Thus, for the moment, while alcohol motors can be used and are used, no real economy has yet been effected by the use of alcohol as a driving fuel, granting its equal efficiency, and there is the further disadvantage that no commercial organization exists whereby automobile owners are assured of obtaining supplies throughout the country.

GOVERNMENT CONSIDERATION—MANUFACTURERS' VIEWS.

The French Parliament is now actively considering the subject in all its aspects, and the proper committee has recently summoned to its sittings various distillers of alcohol and manufacturers interested in its use. The following are translations of two letters addressed to the parliamentary commission by automobile manufacturers. A firm at Vierzon wrote:

In reply to the questions which you have addressed to us in regard to the means necessary to extend the industrial and commercial use of alcohol, we beg

to say that carbureted alcohol with 50 per cent of benzol possesses all the advantages of gasoline. This product, employed in a good carburetor, does not grease the motors, and only attacks the valves. The slight accumulation of grease which we have recognized arises chiefly from the denaturing agents employed by the administration. During several years we have made use of carbureted alcohol, and the only disadvantages which we have recognized are, the difficulty of obtaining supplies while en route and the awkwardness growing out of the instability of prices, which discourage the partisans of alcohol.

A concern at Billancourt wrote as follows:

We desire to state that we have few devices constructed for the use of alcohol, for these reasons: Up to this time there has been no economical reason why carbureted alcohol should be employed; on the contrary, the cost of gasoline is lower. Moreover, carbureted alcohol causes a more rapid deterioration of the motors than gasoline, on account of the presence of water which is found in the alcohol, and which, producing a condensation upon the metallic linings, causes them to rust.

In order that pure alcohol or carbureted alcohol may replace gasoline, it is necessary that the cost per horsepower be notably lower than the cost obtained by the use of gasoline.

It is possible to put motors in movement with carbureted alcohol without first heating them, although this is less easy and less sure than with gasoline; but with pure alcohol it is necessary to heat the carbureting apparatus by means of an exterior envelope before satisfactory results can be obtained. In conclusion, we have only utilized alcohol or carbureted alcohol in order to conduct laboratory experiments and for one or two races in which our machines participated.

INDUSTRIES.

FOOTWEAR AND LEATHER.

HAITI.

TANNERIES AND SHOE FACTORIES AMPLY SUPPLY THE HOME TRADE.

Consul John B. Terres makes the following report from Port au Prince on the leather and footwear industries in the West Indian Republic of Haiti:

The importation of foreign-made shoes into this country has almost entirely ceased in the past eight years. Previous to this period nearly all of the finer grades of men's, women's, and children's shoes were imported from France. The United States furnished some of the cheaper grades of women's shoes. The French make of shoes has always had the preference in this market for its style, finish, durability, and low price, and at no time has the American article been able to compete with the French on these lines.

Since the period mentioned the Italian and Cuban shoemakers established here have almost entirely checked the importation of foreign shoes. They now supply the demand for all grades of shoes and are able to produce a stylish, durable, and much cheaper article than can be imported from France or the United States. In the make-up they follow the French styles. The homemade article has the advantage of cheap labor, low price of the leather, which is prepared in the country, and exemption from the heavy customs dues.

ONE FIRM CONDUCTS COMPLETE OPERATIONS.

At the Tannerie Continentale et Fabrique des Chaussures, one of the largest establishments of the kind in the country, the proprietor superintends the cutting and fitting only; the workmen are all Haitiens, who are apt in learning light trades and in a short time are able to turn out satisfactory work. [Samples of the finished leather may be seen at the Bureau of Manufactures.] The pay of the workmen for the best grades of shoes is 2 gourdes, equivalent to 28½ cents gold, per pair. The uppers are cut and stitched for the workmen, and they turn out two pairs per day or ten pairs per week. The establishment turns out weekly about 1,500 pairs of all grades of shoes. The price obtained for the finest grades is 14 gourdes per pair, equivalent to $2 gold, while cheaper grades are sold at from 10 to 12 gourdes and children's shoes at 6 gourdes.

The are a few establishments that turn out a finer grade of work, for which better prices are obtained, the equivalent of $3 gold for men's or women's shoes.

The concern named has a contract with the Haitien Government to furnish every week 300 pairs of shoes for the army; for these it receives 8 gourdes. They are made of very ordinary leather, light gray

color, soles nailed with brass nails, and are laced; the workmen are paid 1 gourde per pair for making. .

All the machinery for making shoes and the trimmings used in the trade are imported from the United States, which more than compensates for the small quantity of shoes and leather that were previously imported from the United States.

TANNERY OPERATIONS—SUPPLY OF MATERIALS.

The tannery employs some 200 hands, all natives with the exception of the proprietor. The pay of the workmen for dressing the hides, attending to the vats, and such other work pertaining to the trade is 10 gourdes per week, which is equivalent to $1.42 gold at the present rate of exchange.

The vats are 10 feet square and 6 feet deep, built of brick and cemented. It takes seventeen days to tan the hides or skins; of the latter some twenty-four colors are produced. The chrome and combined dyes are all imported from the United States. The bark used by the smaller tanneries, of which there are many, is the mangrove bark, native of the country, which is considered to possess fine tanning qualities; but the proprietor of this establishment informed me that he found difficulty in obtaining the native bark in sufficient quantity, and this necessitated the importation of oak bark from the United States.

On account of the limited supply, the price paid for raw hides is nearly the same as in the United States. Goat, calf, and sheep skins are plentiful and prices are low.

BELGIUM.

MANUFACTURERS MAKING STRONG EFFORTS TO SECURE BRITISH TRADE.

Consul H. Abert Johnson, of Liege, in writing that the shoe industry in Belgium has come conspicuously to the front, describes the efforts being made to secure a larger market in Great Britain:

It is asserted that more than two hundred factories with up-to-date equipment are to be counted in the Kingdom, some of which are able to turn out as many as 3,000 pairs of shoes a week, while it is estimated that this industry gives employment to some 200,000 persons. Exports in this line are calculated to represent about 15 per cent of the entire production. Heretofore the Belgian manufacturers have not succeeded in gaining much foothold in the English market, the importance of which to them can hardly be overestimated, owing to its extent and accessibility.

This lack of success is generally attributed to the fact that attempts to capture this market have been confined to individual and isolated efforts. Concerted action on the part of a number of manufacturers has now resulted in the formation of a well-organized syndicate known as the Union des Fabricants de Chaussures pour l'Exportation, a combination that has proved highly successful in its attempts to place the Belgian shoe advantageously on the British market.

International expositions of the shoe and leather industries have been held annually in England since 1901, and these expositions have attracted rather a large number of visitors, as evidenced by the fact that during the first three days of the exposition, opened on November

4 last at the Royal Agricultural Hall, London, the attendance numbered 27,000. Heretofore Belgian manufacturers had not been represented at these expositions, but under stimulus of the new syndicate they were encouraged to meet competitors in the British metropolis.

HOW ENGLAND REGARDS THE COMPETITION.

A complete surprise seems to have been in store for the British public, for from the opening day of last year's exposition the Belgians leaped into high favor. The Belgian exhibitors were besieged by applications on the part of some of the leading commission merchants to act as their agents in England. A special newspaper published in the interests of the exposition stated:

The Belgian shoe manufacturers have exhibited for the first time, and it looks very much as though an invasion of Belgian foot wear were seriously threatened. For the moment we are not deeply concerned. If these manufacturers who have organized the Belgian syndicate seriously contemplate doing business in our country, they will find that many changes are necessary. Their prices are, it is true, lower than ours, but the shape and style is not what is wanted, and the shoes should be better finished. But of course what would be difficult for an individual manufacturer to undertake is easily accomplished by a powerful syndicate, and it must be borne in mind that the latter is what we have to reckon with.

This modification of the Belgian shoe to suit the English demand will be given special attention, and there seems little doubt that Belgian manufacturers will eventually produce a satisfactory imitation of the English shoe, a style that even in Belgium is rapidly supplanting the French shape hitherto in vogue. It is claimed by many of the manufacturers that the Government could materially assist in capturing the English market by allowing a drawback on all duties paid for leather and shoe findings when shoes are exported. This would in a measure counterbalance the advantages enjoyed by the British shoe manufacturer who gets his material free of duty. Several projects for accomplishing this end have been discussed at the leather exchange within the past year, which are to receive the consideration of the Belgian minister of finance.

RUSSIA.

HAND-MADE SHOES PREFERRED—SMALL SALES OF AMERICAN GOODS.

Vice-Consul-General William Dawson, jr., writes that American shoes are not generally known in St. Petersburg, to which he adds:

Russia should be a good market for American shoes, which have had so much success in western Europe.

As regards the manufacture of shoes, there is only one factory in this district in which shoes are made by machine, and I am informed that it is the only one in the Empire. Concerns which make shoes by hand range in size from the solitary cobbler to a large plant. Hand-made shoes, which are more expensive than the others, are preferred by the well-to-do buyer, as being more durable and more ele[illegible]t. Shoes can be made to order for about the [illegible]ne price that the r[illegible]y-made shoe put together by hand can be ob[illegible]. Not including ti-cles de luxe, good hand-made shoes cost fr[illegible]to 12 [illegible]to [illegible] for men and 6 to 11 rubles ($3 to $5.50) [illegible] erage from 8 to 18 rubles ($4 to $9). H[illegible]

generally worn, run up to 24 rubles, or $12. Machine-made footwear is about one-third cheaper throughout and inferior in quality to the hand-made article. Footwear must be, above all, strong and warm to withstand the severe frosts.

The St. Petersburg Society of Mechanical Shoes, where machinery is employed, does a thriving business owing to the heavy demand for cheaper shoes, and it is generally considered that there would be ample opportunity for three or four more of the same sort. [The address of this and the other local shoe factories in St. Petersburg are filed at the Bureau of Manufactures.]

Ordinary boots and shoes pay an import duty of $0.77¼ per Russian pound (0.9017 pound), whereas kid shoes for women pay $1.31 per Russian pound.

[The export statistics of the United States show a very small trade with Russia in Europe in boots and shoes. There were no direct shipments thither in 1903, while 4,571 pairs, worth $2,508, went forward in 1904; 130 pairs, worth $114, in 1905; 25,000 pairs, worth $8,040, in 1906; and 1,554 pairs, worth $780, in 1907. Only 3 pairs of American shoes, valued at a total of $15, appeared to have been shipped to Asiatic Russia in 1907.—B. of M.]

RUG MAKING IN INDIA.

MANUFACTURING OPERATIONS AND PRACTICES OF THE TRADE.

Consul-General William H. Michael, of Calcutta, has prepared the following comprehensive review of the rug-making industry of British India, which depends so largely on the United States for a market:

The United States buys each year many thousand dollars' worth of what are known to the profession as "washed rugs." Brightly colored Oriental rugs are sometimes washed with a solution of chloride of lime, which treatment partially bleaches the colors and imparts a soft appearance to the rug. This chemical treatment is a process of "washing" which produces the effect of age and a peculiar sheen to the surface, which is pointed out by the unscrupulous seller as a proof of superior quality. The fact is the process of washing as described invariably weakens, and in some cases destroys, the materials of the rug.

The progressive effect of the chemicals on the materials in the rug is as follows: The chlorine gas contained in the chloride of lime attracts oxygen and moisture from the air, by which muriatic acid is formed, which eats away the vitals of the rug. Sooner or later the wool and cotton in the rug become brittle and thus weaken the warp and deteriorate the wool. When this deterioration is complete the pile of the rug may be swept away by the ordinary process of sweeping, and the warp, which is the foundation of the rug, becomes so weak that holes appear here and there and very soon the rug is worthless.

SECURING ANTIQUE EFFECT—DEPENDENCE ON AMERICA.

The question arises as to how this disastrous treatment of rugs can be avoided and still give to the lover of antique effect what he de-

sires. The only answer must be that the antique effect shall be obtained by scientifically correct dyeing and correct technical blending of the colors in the rug. By this method the perfect antique effect can be produced and at the same time a thoroughly desirable rug be had—one that will equal the old Persian rug in appearance and possess all the strength and vitality that a rug can have.

It not infrequently happens that a Persian rug is too staring—for instance, in red—and is not salable. The unscrupulous dealer will subject the rug to a series of washings in chemically prepared water, and in this way turn out a rug possessing a soft and antique sheen that is truly captivating and finds a ready purchaser at an advanced price.

The existence of the Oriental rug manufacture depends on the American market. At one time London was the rug market of the world. At the present time comparatively few rugs find an actual market in London. More fine rugs are taken by Germans, who, by the way, manufacture the tufted rug, which, when well made, is a beautiful and serviceable floor covering.

The United States has become the largest rug market of the world. This fact should make Americans earnest students of rugs in order that they may be prepared to detect frauds and to get the worth of the money invested in beautifying and making comfortable their homes, so far as rugs contribute to that result.

THE DYEING OF WOOLS.

The dyeing of wools used in the manufacture of Oriental rugs is a matter of the first importance. In Europe and other countries synthetical dyes are used exclusively. These colors at first are soft and beautiful, and some of the colors really soften and become more attractive by the process of fading. But this would not do at all for Oriental rugs. The dyes used in the latter are purely vegetable. It should not be forgotten, however, that there are many classes of vegetable dyes, some of which lose their artistic effect unless made honestly and with scientific knowledge. It is gratifying to know that the preparation of vegetable dyes has received a marked advance under the knowledge of chemistry of an expert whose entire interests in the manufacture of rugs lies in the direction of the United States, and all of whose products go to that country.

Each factory dyes its own yarns, and the yarns used in one rug are all dyed in the same solution so as to have absolute uniformity in the colors. The only exception to the statement that vegetable dyes are used exclusively is that cochineal is extensively employed in the production of all reds, crimsons, and pinks. No other dyestuff can be made to take the place of cochineal, which not only gives the soft and beautiful reds and shades of red in Oriental creations, but is absolutely fast. The cheap rugs are not treated with cochineal dyes for the reason that they are too expensive; and it may be said that many of the so-called high-grade Oriental rugs are not treated with the best dyes. It is essential, therefore, that the buyer of an Oriental rug should purchase it from a maker of well-known probity. dealers, depending entirely on representations of those who buy rugs from many small factories and put them on the American ket, and possessing no actual knowledge of the manufacture of

and the manufacturing conditions existing in the Orient, are liable to be deceived, and, in turn, innocently deceive their patrons.

PRIMITIVE LOOM.

The loom consists of two upright posts set 2 to 3 feet in the ground, 5 to 7 feet high, 5 or 6 inches thick, and 12 to 14 inches wide. Set in these posts beams, round or octagonal, revolve on iron pivots, or on the reduced and rounded end of the beam. The beams are of various diameters, from 10 to 14 inches. The ends of the two beams are strengthened by iron bands one-sixteenth of an inch thick. Through the iron bands are pierced holes about 2 inches in diameter to receive an iron bar in winding on the warp and in keeping it taut. To the bars are attached, above and below, chains, which are brought toward each other by a double screw, the ends of which are held in a cross-bar at the open end of the swivel, which has reverse threads to take the screw. By a small iron bar this screw is loosened or tightened as the work requires.

The warp is first switched on iron bars that are inserted in hooks in the beam, either outside or sunken in grooves. When the warp is properly distributed with reference to the number of knots to the square inch, it is firmly and uniformly tightened. At the ends of the warp is a round cord of the same material as the warp, but six or eight times as large as the warp threads. This becomes the firm and strong edge of the rug. A single spool lies near this edge cord, and as the weaving progresses the yarn on this spool is passed round the cord evenly and smoothly, so as to make a pretty finish and to impart firmness and strength to the rug. Between each thread of the warp passes what is called the "gulu." These cords are five times the size of the warp and held in position by bamboo poles the width of the rug.

These poles are tightened or slackened by strong cords fastened to the ends of short bamboo sticks 2 feet long, which pass over a strong pole the full width of the rug and are supported by rude brackets bolted to the uprights. By pulling the short bamboos up or down the pressure on the front or back warp threads is regulated. This pressure is changed at certain lines marked on the warp and according to the pattern of the rug. In front of the lower beam in which the warp is wound, and on the lower one of which the rug is wound as the work progresses, is a plank 2 by 14 inches, which is generally covered with burlap. On this plank the weavers kneel or squat while at work.

Over this plank and about 14 inches below the upper beam is suspended a bamboo pole an inch in diameter and the full width of the rug. To this are suspended spools on which the yarn used in the rug is wound, the ends of yarn hanging down within convenient reach of the weavers. These spools are arranged with reference to the colors in the rug. In most rugs about fifteen or sixteen colors are used. These may be, however, repeated often enough to make it necessary to have in making a large-sized rug as many as fifty-six spools.

WEAVERS AT WORK.

The weavers take their positions. one to each 2 feet on the plank scribed, with the head weaver either at the end or center of the rug. fore him he tucks in the warp the "talim" or weaving books, *ich contain* characters or symbols (a kind of shorthand) indicating

the colors to be used and the number of knots to be tied to the square inch. The head weaver pronounces in a sing-song tone of voice these symbols, which are repeated by all the weavers at the loom who are engaged in making the same thing. Thus the work goes on to a kind of rhythm and with a rapidity and precision that is remarkable.

The knot is tied by passing the end of the yarn through the front warp, back around the rear warp, and then bringing it forward deftly, when it is cut off with a knife which turns back like a small sickle or crescent, the edge being on the back of the crescent and very sharp. The knife is held in the right hand and is operated by the third and fourth fingers. This leaves the first and second fingers free to pass the yarn through and tie the knot. The first and second fingers of both hands are used in tying the knots, and a fast weaver will tie a knot a second, the average weaver tying about forty or forty-five knots a minute. One little boy not over five years of age was able to tie twenty knots in a minute. His baby hands were hardly strong enough to force the taut threads of the warp aside to enable him to seize the rear thread and pass his yarn through and around to form the knot. The more knots tied the more difficult the work and the greater the cost of the rug.

DESIGNS AFTER OLD RUGS.

The design of the old Persian rug is produced in exact colors, and represents a section of the end and the sides of the entire rug. In fact it is a perfect photograph of the design and colors of the old rug. This enables the practical designer to work up the full-size drawing for use in directing the "talim" writer, or the one who makes the "weaving book" from which the head weaver reads to direct the number of men and boys at work on the rug.

The design of an old Persian rug was obtained from the State Printing Works, Vienna, and from this was made a full-size drawing on scaled paper in accordance with the quality of the rug. The drawing shows the number of knots per square inch, 36 being the lowest and 400 the highest. The former is made with a coarse warp, cotton or jute, in India generally of cotton, and the wool, or pile, is of the coarser wools, loosely spun, while the latter has a fine cotton or wool warp and the pile is of fine wool, generally Cashmere wool, or silk. The finer the material used the more knots to the square inch.

WORK AND PAY OF WEAVERS.

Weavers work during the winter months eight and during the summer months ten hours a day. The custom is, however, for each weaver to set for himself a task, and when that is done he quits for the day. The task a good weaver sets for himself is work that will realize to him 8 annas or 16 cents for his day's work. He seems to be entirely satisfied with this result from day to day. Of course the boys do not earn this maximum wage, some of them earning much less.

Each rug is in charge of a master weaver, who gets by contract for 11,000 knots 1 anna (2 cents). He is responsible for the rug, employing the hands, who work under his supervision. When a rug is finished, the head weaver makes a detailed report as to the wages due each man or boy who has worked on the rug, and the wage is paid direct to the hands by the firm. A capable head weaver can

make $15 per month. The others will have made according to the square inches they have woven, some getting 8 rupees ($2.66) and others not more than 4 rupees ($1.33) for the month's work.

EFFECT OF THE FINANCIAL FLURRY IN AMERICA.

As illustrating the effect of the demand for rugs in the United States on rug manufacturing in the Orient, one factory which was employing 325 looms when the financial flurry of 1907 occurred was compelled by the falling off of orders from the United States to reduce its looms in operation to 200, and this has been the general effect throughout the Orient. The decline in the manufacture of the cheaper grades of rugs has been very noticeable for many years, the demand for such rugs in the United States having fallen off considerably, probably because of the beautiful rugs manufactured there and sold at very reasonable prices.

STRAW BRAID IN CHINA.

GROWING THE STRAW AND THE MANUFACTURE AND SALE OF THE BRAID.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following report relative to the straw-braid business in China:

In 1898 almost the entire straw-braid trade of this province (Shantung) was done through the old established business houses of Chefoo, but with the completion of the railway from Tsingtau to the interior of the province, and the improved facility for transportation of braid thereby, the trade has been entirely diverted to Kiaochow, with the consequence that Tsingtau is now the largest straw-braid emporium in China.

GROWTH AND SORTING OF THE STRAW.

The straw generally used in the province of Shantung is that secured from wheat. Small farms are found throughout the entire province, varying in size from 20 yards square to sometimes several acres, but are never found covering large areas as in the United States. The cultivation is carried out in the same manner as has been done for hundreds of years. No special precautions are taken to protect the wheat or to improve its quality, and the crops are dependent entirely upon weather and other natural conditions. The methods of cultivation have not passed the rudimentary stages. The manufacture of straw braid is confined to certain districts, and the quality of the braid produced is largely dependent upon the condition of the year's crop of straw. The crop of straw is cut with hand knives, the wheat or barley is sold for milling purposes, and the straw bought up by straw dealers.

These straw dealers sort the straws into lengths and qualities. The straws from the farmers are approximately 4 feet in length, but up to 1 foot from the roots is considered unusable, and the foot or so near the top of the stalk, after cutting off the head, is used for thatching purposes and is sold by the straw dealers to the country people for that purpose. This leaves 2 to 2½ feet of straw which is available for making braid. The straw dealers clip from the straws all pieces which can be used for first quality braid, pieces varying in length, 4 to 5 inches being generally sufficiently clear and perfect

for this purpose; occasionally longer pieces are found, and in years when an exceptionally good crop has occurred, these longer pieces are more frequent. The remainder of the straw is used for the manufacture of the poorer qualities of plait.

The straw dealers dispose of their straw to the plaiters either as whole pieces of straw of the required quality, or split into strips. For the splitting process, small roughly made knives are used, having a point about 1 inch in length, which is inserted and the straw easily split into two, four, or seven pieces, of equal length.

PLAITING THE STRAW.

The plaiting of the braid is carried out in certain districts of Shantung, and especially in and about the Sha River, known as the "Sha ho district." This district consists of a series of small villages and farms, and it may be safely stated that almost the entire community, men, women, and such children who are large enough to know how, are engaged in the plaiting. Hardly a villager can be seen without his bundle of straw under his arm walking about the streets or sitting upon his doorstep or that of his neighbor continuously plaiting.

It is said that the quality of the plait is largely affected by the weather and the feeling of the people, so that a superior quality is made in the summer, when the plaiters can remain outdoors in the sunshine. In the winter, when the extreme cold of Shantung confines the people to their houses, the braid is liable to be affected by the smoke of the lamps, charcoal fires, with their fumes, etc. The fact that all straws must be wet during the plaiting also affects the manufacture, as during the winter months, which are dry and cold, it is more difficult to handle the straws.

The plaiters have no other occupation than this, and find sufficient work for the entire year, although during the four or five weeks when the straw crop must be gathered they stop plaiting and assist in the fields.

The quantity of braid that a plaiter can make is dependent entirely upon the quality of the product. Split plait, the kind usually sent to the United States, takes, according to width, from two to six days to make a piece of 60 yards. Split plait 10 to 11 millimeters (0.394 to 0.4334 inch) in width will average about two days' work for the average plaiter for a 60-yard piece, while the finer braid, measuring from 5 to 6 millimeters (0.197 to 0.236 inch), would probably take five or six days. This is partially due to the fact that a plaiter can not work so long on the finer grades of work, and in some cases will not do more than one or two hours work a day on special quality goods, but will continue working on some inferior quality as a rest.

AVERAGE PAY LESS THAN A CENT A DAY.

The pay of plaiters is very small and would probably not average 1 cent in gold per day per man. It is almost impossible to get any definite idea of the income of a plaiter, as it depends largely on the skill of the operator, the number of people engaged in the work who are members of his family, the cost of straws, etc. The plaiters buy their straw from the dealers and sell the manufactured braid to straw-braid brokers, who pass through the villages at more or less regular intervals and either purchase what braid is available

or make contracts with the plaiters for supplying a certain quantity of the quality of braid required.

Braid is sold entirely by the Chinese "chih" or foot (14.1 American inches) by the plaiters to the brokers.

The Chinese dealers in the interior, who are located in the larger cities of the districts where the braid is manufactured, purchase from the plaiters and prepare the goods for sale to the foreign buyers. These dealers send their brokers throughout the district, either making contracts for the manufacture of the kinds of braid they require or buying what is available on the market, that is, what they are able to pick up already finished by the plaiters. This purchased braid is bought in its various odd lengths, varying from a few feet to many yards, and sorted into its various qualities. Where places are found which are off in color, or not up to the standard quality, they are cut from the piece, and the braid is thus sorted into the different qualities which have become known to commerce. A bundler then goes through the piles and connects the pieces together until he has a total length of 30, 60, or 120 yards, according to the kind of braid which he is working upon, and when the required length is completed, rolls the braid into the skeins in which it appears on the market. The bundles are then packed into bales or cases, according to the variety, and are ready for shipment.

Braids vary in width from 3 millimeters (0.118 inch), which is probably the finest braid that can be made, to 30 millimeters (1.181 inches) or over. It is packed in bales covered with straw matting and a bale contains 240 pieces, and costs approximately 25 cents gold per bale for packing. Split braid, or the more expensive kinds, is packed in cases containing 480 pieces, and costs for packing about 90 cents gold.

BLEACHING THE BRAID—TRANSPORTATION.

During the time that the braid is in the hands of the up-country dealers it goes through its bleaching process. It is hung in small tightly closed rooms for a day or more, exposed to the fumes of burning sulphur in specially prepared tin boxes in cases.

The complete art of bleaching has never been discovered by the Chinese, and large quantities of the straw braid exported from China are sent to England, where they are rebleached. The great center of the English straw-braid business is in Luton, a small town in Bedfordshire, 40 miles from London. Previous to the opening of the port of Tsingtau by the Germans, almost all the straw braid used on the Continent was shipped to London, sometimes rebleached at Luton, and reshipped to the Continent, but at the present time most of the braid intended for the Continent is shipped directly from Tsingtau.

Braid is occasionally shipped from China direct to the United States and then sent to Luton for bleaching purposes, to be returned to the United States; but the more usual method is for American buyers to ship such braid as needs rebleaching direct to London, where it is forwarded to Luton, and after bleaching it is shipped to the United States from London or Liverpool, appearing in the American customs statistics as of British origin. There is practically no plaiting of braid in England at present, though formerly much braid was made in and about Luton.

The Chinese interior dealers transport braid to Tsingtau almost entirely by the recently constructed German railway. The packages are carried on wheelbarrows, or Peking carts, from the interior town to the railway station, and are unloaded in Tsingtau and transported to the dealers' warehouses in this port. Each dealer has his agent and warehouse in Tsingtau, and the foreign firms buy directly from these agents through the ever-necessary comprador.

Each of the foreign firms located in this city has its regular agents or constituents in the United States or Europe, for whom it buys upon telegraphic advices. On the receipt of a telegram the firm's comprador is informed regarding the quantity and variety of braid that is desired and the probable price that can be paid, and the comprador goes directly to the interior dealers' agents to find out at what cost he can secure the required braid. All purchases are made through the medium of this comprador, and the foreign firms never deal directly with the dealers or their agents except in this way. In the event of sales, the comprador is paid a commission of 2 per cent of the amount of the purchase by the upcountry dealers, the foreign firms paying their comprador no wages or commissions. It can be easily seen that the success of a firm is dependent largely upon the success of the comprador in securing the goods at the desired price.

Each of the foreign firms is supposed to have one of their number who is an expert and has been educated in the straw-braid business. Naturally the firms who are so fortunate as to have experienced men are the ones which are most successful in this business.

These foreign firms receive usually a commission of from 2½ to 5 per cent, but it is said that many firms purchase goods at the lowest possible prices and sell to their constituents at whatever they can get, taking the difference as their perquisite, but the firms which are considered the most trustworthy purchase at the lowest price possible and give their constituents the advantage of such purchases, contenting themselves with their regular commission of from 2½ to 5 per cent, as has been previously arranged.

WHERE MANUFACTURED—QUALITIES BOUGHT BY AMERICANS.

Straw braid is manufactured to a very large extent in Shantung Province, and also in Shansi, Honan, and Chihli, and is exported from Tientsin, Tsingtau, and Shanghai, though practically all of that which is exported from the latter place is really Tsingtau goods, collected, sorted, and repacked only at the place of export.

The foreign firms in China sell to the importers in the United States, never directly to the manufacturers, and it is believed here that such direct sales would not prove satisfactory.

As a general thing the following kinds of braids are shipped to the United States:

Split plait, Shansi mottles, Shansi white, Mashenpoo, Yangshin white, Laichow white, Mingyang, Eastern or Yu-teen white, and Rustic. Most of the finest qualities of these grades go to the United States.

EXPORTS TO THE UNITED STATES.

The following statement, wherein the value of the straw braid declared for export to the United States at the several consular offices

is given, goes to show that the export of this important manufacture is becoming centered at Tsingtau:

Declared for export at—	1906.	1907.	Increase+ and decrease.—
Chefoo	$90,862	$45,069	−$45,793
Shanghai	999,200	644,744	−354,456
Tientsin	340,522	96,517	−244,005
Tsingtau	135,254	755,289	+620,035
Total	1,565,838	1,541,619	− 24,219

GERMAN CHEMICAL INDUSTRY.

BUSINESS PROSPEROUS AND LARGE DIVIDENDS DECLARED.

Consul-General Richard Guenther, of Frankfort, furnishes the following information concerning the condition of the German chemical industry in 1907:

This district contains some of the most prominent chemical works, and forms one of the chief centers of that line of industry in Germany. I quote the per cent dividends declared from the earnings by some of the German joint stock companies in 1907, the figures in parentheses being the dividends declared in 1906: Color works at Elberfeld, 36, and an extra dividend of 20 distributed from reserve fund No. 2; aniline and soda works at Ludwigshaven, 30 (30); chemical factory at Berlin, 10; chemical works at Biebrich, 32 (22½); chemical works of Griesheim, 14 (12); color works of Hochst, 30 (30); united chemical factories, Mannheim, 20 (20); chemical factory Weil-ter-Meer, 10 (10).

The German chemical works do not distribute all their net earnings in annual dividends; they write off large sums on the works, real estate, etc., and transfer considerable amounts to reserve and special reserve funds, besides awarding substantial money grants to their supervisory boards (composed of principal stockholders), directors, and officials. To illustrate this the following extracts from last year's business of two of the smaller chemical companies are given:

One of these at Frankfort, whose share capital is 14,000,000 marks ($3,332,000), earned, in 1907, 7,557,000 marks ($1,798,566). The costs and actual business expenses were 1,752,000 marks ($416,976). As the declared dividend of 14 per cent absorbed but 1,960,000 marks ($466,480), the balance is put away in writing off large sums on the plant, carrying large sums to various reserve funds, distributing bonuses among directors and officials, to pension fund, and carrying forward to new account 814,000 marks ($193,732). It may be remarked here that the latter sum itself is equivalent to 6 per cent extra dividend on the company's entire share capital.

A chemical concern at Biebrich, on their capital of 10,000,000 marks ($2,380,000), earned 6,165,000 marks ($1,467,270), from which 584,000 marks ($139,992) were deducted for the business expenses. The dividend of 32 per cent declared on the share capital absorbs but 3,200,000 marks ($761,600), consequently a similar process of writing off and distributing and carrying o , as in the other case quoted, was pursued.

Of all the prominent lines of manufacture in Ger that of th *chemical branch is* the most profitable. There is a g g tende

among the successful companies to fuse their interests so as to lessen competition among themselves, because it is feared that the new patent laws in foreign countries will eventually create abroad competition to the chemical works of Germany, which now almost enjoy a monopoly.

BELGIAN INDUSTRIAL DEPRESSION.

STOCK VALUES SHOW SERIOUS DECLINES AND FACTORIES ARE CLOSING.

Consul H. Abert Johnson, of Liege, contributes the following review of present industrial and financial conditions in Belgium:

Prices of metals reached their maximum level since 1900 during the latter part of the first trimester of 1907, after which period a rapid decline in prices took place. Copper, for instance, after going as high as $539, dropped to $291. Tin was also subject to enormous fluctuations in price, from a maximum of $973 to a minimum of $500. These rapid and abrupt fluctuations in the prices of metals seem to have had little effect on the foreign commerce of the country, owing, it is said, to the compensatory effect of satisfactorily high prices that prevailed during the opening semester of the year.

On December 31, 1907, the total value of the transactions at Brussels in the stock market amounted for a certain period in round numbers to $2,160,056,000. On March 31, for a like period, taking into consideration new securities on the market and those that were withdrawn, these figures were reduced to $2,127,439,000, a shrinkage of $31,459,000. Low prices were especially marked in the case of the stock of tramway lines, the iron and steel industries, and coal mines; it is thought at present that other industries are destined to be similarly influenced in the near future. It can hardly be said that the present industrial situation is hopelessly discouraging or that there exists any justifiable grounds for supposing that within the next few months matters are going to get decidedly worse.

The Revue du Travail stated recently that the number of forced closings of the various factories, already large during the preceding month, greatly increased during May and was actually three times as large as it was in the corresponding period of last year. The Flemish jute factories were seriously affected by these forced suspensions. In the cotton spinning mills operations are almost exclusively confined to executing old orders. A large proportion of the works connected with cotton weaving are also stopped.

A steadily decreasing production is noted in the flax spinning industry, while in the linen textile industry the situation is even worse. Three-fifths of the industries of West Flanders are at a standstill and it is reported that one of the leading factories of that section is only working thirty-five hours a we

Conditions in the woolen [illegible] ustry are no better, and it is said that work is being sus[illegible] al places. This depressing influence seems to be spread[illegible] the entire Kingdom. It seems to be generally conc[illegible] ete recovery from the effects of a [illegible] it is not thought that the situation [illegible] before some months or

MATCH MAKING IN CHINA.

PROFITABLE OPERATIONS OF AN INDUSTRY AT HANKOW.

In stating that the Hsieh Chang match factory is owned and managed exclusively by Chinese, and only hand labor in the manufacture of matches is employed, Vice-Consul-General Albert W. Pontius, of Hankow, describes its operations as follows:

All of the material used with the exception of phosphorus is purchased in Japan. The phosphorus is imported from England and France. Of the 600 workers 400 are women. The match sticks of double length are imported from Japan, and the men are employed in drying and dipping these sticks into the sulphur fluid and composition. The sticks are then cut in two to their regular length. Two styles of matches are turned out, the ordinary sulphur and the red composition match.

The women insert the dry sticks in the meshes of a sieve, improvised for the purpose, ready for the men to dip in the sulphur or red composition. They are also employed in filling the match boxes, wrapping these boxes into 5-gross packages, and then packing these in 50-gross boxes. The match boxes are made by women at their homes, who are paid by piecework. The women engaged in such work number about 500.

The present daily output amounts to 130 boxes of 5 gross each of the ordinary sulphur match and 20 boxes of 5 gross each of the red composition match. The factory also sells the ordinary safety match, but these, although bearing the stamp of the factory, are manufactured in Japan. I am informed that the demand for the ordinary sulphur match is rapidly decreasing and that the factory has now on hand more than 6,000 boxes of the 5-gross size. The red composition match has been gaining favor rapidly and the output will shortly be largely increased. The company owning the factory was capitalized at $40,000, with shares at $80 each. During the 14 years of operation the shares have increased in value and are now worth $640 each.

FRENCH DETONATING TOYS.

GROWING OUTPUT OF A HARMLESS NOVELTY—LARGE AMERICAN SALES.

Consul C. P. H. Nason, writing from Grenoble, describes the pyrotechnic or detonating toy industry, which has developed in recent years to a considerable extent in that French district, at Salaise on the river Rhône, as follows:

Exportation of these toys is made to various countries—Germany, England, Belgium, Switzerland, and in increasing measure to the United States. Several American orders have this year been declined for want of adequate facilities with which to make and deliver the goods in time; and this even though the factory has been twice enlarged.

It is claimed for these little toys, which are made in a variety of forms, that they constitute a decided novelty over others heretofore made. As they contain no explosive, but detonate or "go off," spon-

taneously by simple friction or crushing, without the use of a match, they are in consequence harmless. This is one of the reasons of their growing success. It is not intended to produce a loud report as with explosives made of powder, and which are often followed by harmful results. On the contrary, they produce a long series or succession of detonations, the effect of which is very like that of a mitrailleuse or "Gatling" at a distance.

COMPONENT PARTS OF THE TOYS.

The manufacturer does not consider that he discloses any secret in telling me that his detonating composition consists of gum arabic, of carbonate of lime and magnesia, of white phosphorus and ocher, with a small quantity of chlorate of potash. This mixture is reduced to an emulsion by means of one-third of its weight of water heated to about 130° Fahrenheit. In this relatively liquid form it is applied to strips of paper, or to stems of wood, or poured into molds, following a great variety of forms according to the inventive play of the maker. It makes its report only through contact of the white phosphorus with other substances by friction, and hence is without the danger of other explosives.

The pyrotechnical composition is prepared in mechanical "malaxeurs," and, save for two articles where machinery is employed, the making of most of the toys is done by women workers.

The annual production for the last three years is placed at 92,000 gross; in which 70 or more women and men workers are employed. At the present time the establishment in question has a representative agent in the United States. The value of exportations to the United States in 1907, through the Grenoble consulate, was $12,077 and for the first quarter of 1908, $6,259.

MAKING DOLLS IN GERMANY.

MATERIAL USED AND HOW THE PARTS ARE ASSEMBLED.

Consul Will L. Lowrie, of Weimar, furnishes the following information concerning the different stages by which dolls are manufactured in that important German city. He says:

Only the assembling of the various parts of the dolls, painting the bodies, arms, and legs, and sticking on the wigs is done at the factory. Each figure passes through about twenty hands before it reaches completion, the raw material being taken to the homes of the work people and then returned to the factory. The work is all specialized, and each time a new process takes place in the evolution of a doll it is done by certain employees [illegible] are more or expert. Bodies are made mostly of paper, altho[illegible] kid extensively. They are molded at the homes [illegible] iron molds at factories devoted entirely to [illegible] of dolls are made, from a few inches in [illegible] The hair is Angora wool from En[illegible] rubber (elastics), stretched to [illegible] ar Styles change each year, and the manu with the modes.

INLAID LINOLEUM MAKING.

MODERN SCOTCH METHOD OF PRODUCING THIS FLOOR COVERING.

Consul John N. McCunn, in his annual report covering Dunfermline, furnishes the following description of the Scotch manufacture of linoleum:

Inlaid linoleum is making rapid strides in public favor. It is more expensive, as the colors are not merely printed on the surface of the fabric, but are solid all through. Under the original patent it was manufactured by means of stencils. The fabric which was placed on the canvas foundation was a mixture of oxidized linseed oil and ground cork, and to this mixture was added the desired color. By means of a stencil apparatus the black colors of a pattern were laid down on the canvas; thereafter the red parts were also laid down, and so on, and after the pattern had been completed the whole was subjected to hydraulic pressure and then dried.

This patent has expired, but a new process has been introduced in which each color is manufactured in sheets. A sheet is passed through a cylinder having knives which cut out the requisite parts of the color for making the pattern, and the machine deposits these parts on the canvas in the appropriate places. Each successive color is dealt with in this way, and after all the colors have been laid on the whole is subjected to heavy pressure. The benefit of this new patent, which has not expired, is that the division lines between the different colors are much more clearly cut at the joinings. The machinery for this new patent is very elaborate, the works being about 120 feet high, while the machine itself is nearly 110 feet high; the building and equipment cost about $340,655, and there are some fifteen flights of steel stairs built into the machine.

LABOR WORLD.

CONDITIONS AMONG WORKERS.

GERMANY.

CITY EMPLOYMENT BUREAUS PLACE LABORERS GRATUITOUSLY.

Vice-Consul Walter A. Leonard, of Kehl, furnishes the following concerning employment in Alsace-Lorraine:

Public employment bureaus whose services in placing laborers are gratuitous exist in the larger cities and towns of Alsace-Lorraine, as well as being more or less developed all over Germany. There is no law to exclude private employment agencies, but the few that exist in this consular district only handle house servants and are insignificant compared with the city bureaus. The Germans recognize that the activities of private employment agencies tend to shift laborers from place to place and cause too many changes for the good of employers and employees; hence the municipal governments prefer to carry on this business at their own expense rather than permit these private concerns to have the field to themselves and influence laborers to give up their positions in many cases merely to be privileged to again place the same laborer elsewhere in order to secure compensation for such services.

MUNICIPAL LABOR BUREAUS.

Fifteen different municipalities of Alsace-Lorraine, ranging in population from 5,000 to 175,000, conduct employment bureaus which aim to keep in close touch with the various organizations of employers and employees. In the smaller towns the directors of these bureaus are usually acquainted personally with the employers and most of the employees, and in every case it is the aim of the city to give the directorship of these employment bureaus only to city officials who can work harmoniously and effectively with employers and the laboring element.

In many of the cities employers never think of turning to anyone but the city employment bureau for help, and industrial organizations likewise depend upon this agency to place its members when they are out of work. In some cases there is a contract between certain trade organizations and the city bureaus, to the effe that only t city shall have the privilege of placing its members. h fi ments, however, have not always been found may be times when a private agency can to ment for one or more of its laborers, which ment naturally forbids.

COOPERATION WITH OTHER INSTITUTI

The cooperation with hospitals, c b
boarding houses, city charities, h

vacant dwellings being kept by the city), poorhouses, etc., is an important feature. The director of the Strassburg bureau says that the city charities work in cooperation with his office so that no one can get any help from the city without a proper card having first been filled out for him by the employment office, attesting that he is either incapable of working or that the city can furnish no work. This system leaves no field, practically, for tramps and beggars, because if they are really in want they will get assistance from the city either in the form of employment or temporary support.

Of the foreign laborers in this section of Germany, the Italians are in the lead. They have not been successfully controlled by the city bureaus, for they seem to prefer the mediation of private employment agencies. In their case it is not dealing with the individual, but usually with leaders of their nationality, who control entire colonies of workmen. They are desirable for work in stone quarries, coal mines, sewer construction, and all such labor as requires large numbers of unskilled workmen. However, because of their propensities for moving about, it is never certain how long they will stay with their work.

Second in numbers to the Italians are the Swiss laborers, but they are so much like the natives that they are hardly looked upon as foreigners; Austria-Hungary and France also furnish some laborers, but in all of Alsace-Lorraine during the year 1907 the foreigners represented only 6.54 per cent of the entire laboring element.

DEARTH OF LABORERS FOR AGRICULTURE—WINTER WORK.

According to the reports of various employment bureaus, there is a scarcity of laborers for agricultural pursuits, and this also affected work in the vineyards, for Alsace-Lorraine has 25 per cent of the vine-planted area of Germany, 5 per cent of her own area being devoted to vineyards. Some laborers were brought from France for this work, their railway fare having, in most cases, to be paid by the employer. The city bureau of Metz, Lorraine, explains that opportunities for higher wages and the charm of industrial pursuits lure the unskilled workmen away from the more healthful occupation of agriculture.

Some of the cities report no lack of work all the year round, but larger places like Strassburg, Muelhausen, Metz, and Colmar tax the employment agencies to the utmost to sometimes find suitable employment for idle laborers during the coldest season, when building operations and improvements can not so readily be carried on. The bureaus solve this largely by sending unmarried laborers to outside places, especially to the coal mines, where extra help can always be used, the railroads furnishing transportation at half fare, and by such labor as ice cutting, thus tiding over the few weeks of the year when cold weather causes work to suffer. The city of Strassburg uses laborers who can find nothing else to do in tearing down the old city wall, and this has been styled emergency work.

MISCELLANEOUS.

On account of the difficulty in placing released convicts the cities accept them as day laborers on the streets and for city improvements. Further, the employment bureaus cooperate with special societies for

released convicts, which aim to give such laborers proper encouragement and suitable occupation.

The city bureaus must keep in touch with the barracks and anticipate the discharge of large numbers of soldiers who have served their two years or more in the army, so as to locate them in suitable occupations upon their return to civil life.

Whenever the city finds an employer mistreating his workmen, failing to pay them regularly, or not keeping his factory in a sanitary and respectable condition, he is blacklisted by the city and does not receive the aid of the employment bureau.

The economic significance and the position of the city employment bureau in the municipal government is taught in the common schools. The schools and employment bureau keep in close touch with each other, for apprentices are taken from the schools to serve four or five years before they have any chance to earn average wages in the respective trades. Industrial, commercial, and technical schools cooperate with the city bureau, so that its students may be placed after the completion of their courses.

The various city bureaus report different ratios of skilled and unskilled laborers handled by them. In Metz, with 65,000 population, there were 3 unskilled to every 4 skilled. Muelhausen, with 100,000 popualtion, had 69 unskilled laborers in every 100. In Strassburg, with a population of 175,000, there were 2 skilled to every 3 unskilled.

MAKING VACANCIES KNOWN—EXTENSION OF SYSTEM.

The press is utilized in making the vacant positions known to the public, the same being published at least weekly in 250 different newspapers of Alsace-Lorraine. Another effective method is the use of large posters with a list of all the vacancies. These posters are put in conspicuous places and not only give the laborers wanted in the various trades of the local city, but of all the 15 different municipalities of Alsace-Lorraine having employment bureaus. Thus at such places as the railway station one will find an itemized list of no less than 160 different occupations and the number of workmen needed that day, if any, in these respective trades. The railroads offer 50 per cent reduction in fare to all workmen who secure employment through city bureaus to all places more than 25 kilometers (15.5 miles) distant, good not only in Alsace-Lorraine, but in the neighboring States of Germany, which likewise have city employment bureaus.

Southern Germany has developed these public employment bureaus to a greater extent than middle or northern Germany. At the present time not only the employment bureaus of Alsace-Lorraine cooperate with each other, but those of entire south Germany, and efforts are now being made to so organize all these city bureaus that their cooperation will extend over entire Germany. To this end, the Fifth Congress in the interest of city employment bureaus will meet at Leipzig, November 12–14. A member of the Strassburg city council, who has made a special study of labor problems, has expressed the hope that some representative of the United States will be present, because he believes that not only all of Germany, but eventually the principal countries of the world will thus cooperate in controlling the employment of laborers.

STRASSBURG.

MUNICIPAL INSURANCE AGAINST IDLENESS.

Vice-Consul Leonard also furnishes the following information concerning the problem of insurance against idleness in Strassburg:

On December 27, 1906, the city council of Strassburg adopted rules and regulations for the insurance of the unemployed [a translation of which is on file in the Bureau of Manufactures]. The city of Strassburg, in order to minimize unemployment as much as possible and to have an indirect control of the same, has offered to give an extra allowance of 50 per cent in addition to that which any industrial society in the city contributes to its members who are involuntarily unemployed, provided, of course, the conditions laid down in its rules and regulations are complied with.

According to a report of the city council recently published, the introduction of this system of insurance has proved to be a success in Strassburg, so much so that no less than 50 cities in Germany have written inquiries to the local authorities concerning the workings of the system, with a view of introducing the same into their respective municipalities.

Twenty different industrial societies, comprising a membership of about 25 per cent of the workmen of Strassburg, applied for membership within a month after the adoption of the rules and regulations by the city council. Of these 20 societies 12 received the guaranteed support, while the other 8, on account of their prosperous condition and plenty of work, did not need to take advantage of the city's offer.

AMOUNTS PAID—ENCOURAGES INDUSTRIAL UNIONS.

The city was called upon to pay 1,900 marks ($452) in 1907, while industrial societies paid 8,000 marks ($1,904) to its members for such insurance. The apparent inconsistency of the city not paying 4,000 marks ($952)—50 per cent of the sum paid out by the societies—is explained by the fact that all the idle workmen who received support from their respective societies did not comply in all particulars with the city's rules and regulations, hence were not entitled to the extra allowance, the two chief reasons being a residence of less than a year in the city and the failure of the workmen to report regularly at the city employment bureau.

This insurance system does not reach all the laborers, in particular the unskilled classes who belong to no industrial societies. It is true that less than 25 per cent of the laborers at the beginning of this year came under the provision of the city's allowance guaranty, but the director of the local employment bureau says that the percentage of workmen belonging to industrial societies has increased since the city introduced this system and that the percentage will undoubtedly continue to increase and that these insurance rules and regulations will encourage the organization of industrial societies whose aim is to increase proficiency in their respective trades and educate their members generally, and eventually the great majority of laborers, so far as unemployment is concerned, will be under the control of the city through these societies.

COLOGNE.

REDUCTION OF MINERS' WAGES IN THE RUHR DISTRICT.

Consul Hiram J. Dunlap, of Cologne, furnishes the following statistics concerning labor and wages in the coal mines of the Ruhr:

The report of wages earned by the miners of the Ruhr district, the most important coal mining district in Prussia, for the quarter ending March 31, 1908, shows that there has been a small reduction as compared with the wages paid during the last quarter of 1907, but as compared with 1906 the present wages are considered high.

The average daily wages of all mine employees for the first quarter of 1908, including miners, helpers, boys, and women, was reduced 12 pfennigs (2.86 cents) per day, as compared with the last quarter of 1907. The wages of miners, who compose 50 per cent of all the mine employees, during the first quarter of this year were 5.94 marks ($1.41, as against 6.14 marks ($1.46) in the last quarter of 1907. The wages of other classes of workmen employed in mines for the same periods were 4.15 to 3.96 marks (98.8 to 94.2 cents) in 1907 and 4.09 to 3.89 marks (97.3 to 92.6 cents) in 1908.

The total number of employees during the last quarter of 1907 was 309,353, which increased to 320,435 in the first quarter of 1908. The wages paid during same periods amounted to 123,287,069 and 122,362,054 marks ($29,342,322 and $29,122,169), a decrease, in spite of the increased number of employees, of 925,015 marks ($220,154).

In most of the mining districts of Prussia, the report continues, the wages are a trifle less, and have fallen proportionally in all except two districts, where the increase in the iron mines has been about one-fourth cent per day.

These wages and changes no doubt appear insignificant to an American miner, but in this country, where the smallest coin is less than one-quarter of a cent, a very small change is considered important.

FRANKFORT.

DEMAND FOR WORK INCREASING.

Consul-General Richard Guenther, of Frankfort, reports that the retrogression of German industrial activity, evidenced by the state of the German labor market in April, continued through May, so that the demand for work has greatly increased over April. While this demand always increases in May, it has, however, been unusually large and was the largest since May, 1902. According to the tables furnished by the public labor bureaus, there were in May, 1908, for every 100 vacancies 161.5 applicants against 141.8 in the preceding month and 103.7 in May, 1907. The condition of the labor market in May and April of this year was the most unsatisfactory in many years, and every important branch of the German industries is involved.

The public labor bureau has issued a statement showing that for every 100 places open for labor throughout Germany in April, 1908, there were 141.81 applicants, against 92.82 applicants for every 100 open places in April, 1907. For the first four months of 1908 the average number of applicants per month for every 100 places was 145.6, while the monthly applicants for every 100 places during the first four months of 1907 was ony 109.

MAGDEBURG.

LABOR NOW AND TWELVE YEARS AGO.

Vice-Consul James L. A. Burrell, of Magdeburg, reports that a leading publicist, basing his argument on German official statistics, has reached the conclusion that the German workingman is now in a position to spend from 10 to 12 per cent more for necessities and pleasures than in 1895. He claims that a similar investigation in the United States shows an advance of 8 per cent in the same period.

FRANCE.

EFFECTS OF THE LABOR ACCIDENT AND WEEKLY REST LAWS.

Consul William H. Hunt, of St. Etienne, furnishes the following report relative to the working of the laws relating to labor accidents and weekly rest in France:

The influence of the labor accident and weekly rest laws has been diversely interpreted as they affect the employers and the workmen and also the prosperity of the nation's industries. It is natural to infer that these laws are not identical in their application or consequences for all kinds of industries, and in order to understand their mode of working it is necessary to take a typical case—that of an industry with a working capital of $200,000, employing 100 workmen per day.

To determine the apparent charges falling on the employer by reason of this legislation, it is necessary to consult the books of the accident insurance companies to ascertain the insurance rate for the different industries. This rate varies, going as high as 12 per cent, but an average of 4 per cent will meet the purposes of this report. It has been computed that for 100 workmen earning an average daily wage of 87 cents the insurance rate for one day will be $3.48, or for an industry working 350 days, $1,218. These figures might appear exaggerated, but the insurance companies affirm that they will be obliged to advance the rates still higher in order to meet their increased liabilities.

WEEKLY REST LAW.

The law requiring one day of rest out of seven is divided into two sections—that relating to industries authorized to apply the rest by rotation (roulement) and those not authorized to distribute over the week the day's rest. For the first, the law has affected industries by the fact that supplementary hands equal to one-seventh of the number of workmen have to be engaged, as well as additional foremen, in order to insure the necessary surveillance of the work. This burden would in reality have been slight if the men did not demand an increase of wages—obliged to be idle one day in seven, their weekly wage is, of course, diminished in the same proportion.

Two solutions presented themselves to the employers in face of the demands of the men: (1) Raise of the wages one-seventh, that is to say, to the amount paid before the promulgation of the law, and reducing at the same time by one-seventh the number of their workmen, and consequently the output; (2) maintaining the same output by taking on a supplementary force to replace the men at rest, and

increasing thus the working expenses by one-seventh. In the majority of cases employers have chosen the latter solution by increasing the number of workmen and maintaining the usual output.

Taking the average wage at 87 cents per day for each workman, the obligation of employing an additional one-seventh of the working staff involves a daily expense of $12.43.

In the industries not authorized to apply Sunday rest by rotation the effects of the new law have been met by a reduction of one-seventh in the output, or the general expenditures are increased as well as the material in order to attain the normal output before the application of the law.

PROPOSED LABOR LAWS.

In addition to the aforementioned laws, which have taken effect, two others are engaging the attention of the legislative bodies—those which concern maladies resulting from their profesison, and workmen's pensions.

The first covers two classes of indemnities in case of sickness:

(1) Compensation applying to the treatment of maladies resulting from certain trades, causing inability to work for thirty days; (2) compensation applying to the treatment of all maladies without distinction, including causes for inability to work not exceeding thirty days. The burden of the first proposition falls entirely on the employer, while the workmen contribute to the second, the employers being responsible only for that portion of the risks resulting from the illness due to the profession, and the workmen supporting the charges resulting from the ordinary sources of sickness. This bill being, so to speak, a corollary of the law on labor accidents, the charges would be at least doubled.

For the industry in question (employing 100 workmen) the charges would amount to 8 per cent of the wages, or $6.96 per day, and for three hundred and fifty days, $2,436.

BILL ON WORKMEN'S PENSIONS.

The bill on workmen's pensions, now being examined by the Senate, is based on the triple obligation of the employer, the workman, and the State to contribute annually the necessary amounts to constitute for every workman or servant of thirty years' service and who has reached 60 years of age, a life pension of 360 francs ($69.48.) The contribution of the employer is fixed at 2 per cent, that of the workman at a similar amount, while the State makes up the difference, so that the pension, after thirty years, reaches the fixed minimum of $69.48. The law provides for the capitalization, in the meantime, of these threefold contributions. The daily expenses for the employer (of 100 employees) would be $1.74, or for three hundred and fifty days, $609.

From the foregoing study it results that the total annual charges imposed by these labor laws may be divided up as follows: Accidents, $1,216; weekly rest, $4,323; illness, $2,436; pensions, $609; total, $8,584, or 4.45 per cent of the capital invested.

Of course the question arises whether the apparent loss in money and output is not compensated for by the gain in health, endurance, and efficiency of the workers.

BELGIUM.

CONSTRUCTION OF WORKMEN'S HOMES IN LIEGE.

The following report concerning the erection of workmen's homes in Liege and the betterment of public conditions thereby has been prepared by Consul H. Abert Johnson, of that Belgian city:

December 31, 1907, marked the fortieth year of the Liege Association for the Construction of Workmen's Dwellings, which had its inception in the outbreak of cholera in that city in 1866, and which clearly pointed to the dangers to which the whole population was exposed owing to the insanitary housing of a large contingent of the working people. To guard against such dangers in the future the association was organized for the purpose of providing the families of the working classes with comfortable and hygienic habitations at a minimum cost and upon easy terms.

Thus what is now known as the Société Liégeoise de Maisons Ouvrières was organized, with a capital of 400,000 francs ($77,200), on September 21, 1867. It soon became evident, however, that the society required much more capital than this, and the King, the city of Liege, and many private individuals came to its aid, and the capital was increased to 1,501,000 francs ($289,693), which enabled it to extend the sphere of its action and undertake on a large scale the construction of workmen's dwellings.

WORK ACCOMPLISHED.

The work accomplished by this society proves that the object for which it was created has been completely attained, for no epidemic has attacked the inhabitants of its towns, although a large number of the houses have been constructed to accommodate two families. Through the society's efforts more than 800 workmen's families have been provided with comfortable and sanitary homes under such favorable conditions as have enabled them to easily become the owners thereof.

The houses constructed by the society, up to December 31, 1907, numbered 562, of which 257 are sold and fully paid for by the owners, and 184 are sold, although not fully paid for, but are being regularly paid for by monthly installments. The society's fortieth annual balance sheet shows assets amounting to 2,134,141 francs ($411,889), with liabilities amounting to 265,692 francs ($51,278).

HOW WORKMEN ARE ENABLED TO SECURE HOMES.

The maximum amount loaned to any one individual is fixed at 6,500 francs ($1,255), including all legal charges in connection with effecting the loan.

The city agrees to lend the money for a period of maximum duration of 66 years, with the obligation on the part of the borrower to take out what is known as a mixed insurance on his life of not less than 1,000 francs ($193), payable to himself upon reaching the age of 55, 60, or 65 years, or to his heirs, in case of his death. The rate of interest on such loan is 3½ per cent when taken for 66 years; if taken for a less period the interest is proportionally increased. Upon examining the question from all points of view, the society decided that 66 years was preferable to a shorter period, provided that, at *the same* time, an insurance is taken out in excess of the 1,000 francs *($193) required* by the city.

An example will suffice to demonstrate the advantages of such a method. Take, for instance, a workingman 30 years old, who takes a loan of 6,000 francs ($1,158). To secure such a loan for a period of 66 years he must pay interest at the rate of 4.65 per cent, and the Government life insurance department will at the rate of 2 francs (38 cents) per month guarantee him a sum of 1,002 francs ($193.39) to be paid to him on reaching the age of 66 years, or, in case of his death, to his heirs. In this manner the workman is obliged to pay 25.25 francs ($4.87) per month or 303 francs ($58.48) annually.

By monthly payments of 25 francs ($4.82), premium on insurance included, the workingman of 30 years of age can obtain, in making the loan payable in 66 years, a capital of 3,756 francs ($725), guaranteed to his heirs in case of death. In this case the premium on his insurance will amount to 7.50 francs ($1.45) per month and the interest on the loan will amount to 17.50 francs ($3.38) per month.

BRAZIL.

ASSOCIATION OF COMMERCIAL EMPLOYEES AT RIO DE JANEIRO.

The following information relative to the cause of the formation of a Rio de Janeiro association and its aims and objects is furnished by Consul-General George E. Anderson, of that city:

In 1877 there was agitation among employees of commercial houses in Rio de Janeiro for the closing of places of business on Sundays and holidays, the custom at that time being to keep places open every day in the year, unless the proprietors thereof of their own volition decided otherwise. As a result of that agitation there was formed in March, 1880, an association, "The Association of Commercial Employees of Rio de Janeiro." This organization, now numbering 19,473 members, is, in some respects, one of the most notable of its sort anywhere, and embraces some of the most advanced ideas in labor or similar organizations in any part of the world. The organization embraces not only the features common to labor unions the world over, but includes some of those common to a mutual insurance company, a social organization similar to a brotherhood, and an organization protective in other lines. Without any help other than the contributions and fees of its members, it has acquired property free of debt to the value of about $300,000.

From a social and a municipal-sociological point of view the organization is of inestimable value. Its fine social and diversion rooms attract scores of members every evening; the reading rooms are always occupied, and during the evenings are taxed to their utmost capacity. The library contains over 12,000 volumes and is frequented by more readers than is the national library in this capital. The professional service at the disposition of the members is of the highest order. It is common for the leading physicians, surgeons, dentists, and lawyers to place a certain number of hours per week at the disposition of the association. A member paying but 90 cents per month may have the services of the best specialists in eye, ear, nose, lung, and other diseases. These same specialists charge from $50 to $200 for a consultation ordinarily, and in a city where dental work costs $10 to $15 per hour it is no insignificant matter to have a good dentist's services for the cost of materials used. Some of the best legal minds of the capital may be freely consulted by the mem-

bers during certain hours of the week at the association's offices, and their support may be had before the courts of the land.

So efficient and far-reaching has been the influence of this organization that similar associations have sprung up in all parts of Brazil, and a more or less loose affiliation exists between them. In all, about 40 associations have been organized in as many Brazilian cities.

ERECTION OF WORK PEOPLE'S HOMES IN RIO DE JANEIRO.

The municipality of Rio de Janeiro has constructed and is now preparing to rent 62 groups of houses of two types, some for families and others for single men. These houses, in some respects, are entirely different from the general conception of workingmen's tenant houses. All are constructed of brick and tile covered with plaster, with tile roofs, narrow verandas, small grounds, simple but efficient plumbing, tile floors, and with openings which admit of thorough washing with a minimum of effort and expense. Each group is in appearance a double house of two stories, the lower floors of which are for families and the upper floors for single men.

In type A the lower floors include four rooms, kitchen, bath, toilet, and with outside laundry, according to the prevailing Brazilian style. Each suite has an independent garden. The upper floor of each house is divided into four rooms with a closet and bath, the four rooms being reached independently of the rest of the building by outside stairways to a veranda from which the rooms are entered.

In type B the lower floors include only two rooms with bath, closet, kitchen, and garden, and the upper floors two rooms for single men; otherwise they are built as the type A houses. The kitchens, baths, and closets are tiled with vitrified tile to a height of about 6 feet.

RENTING AND SITUATION OF THE HOUSES.

The manner of renting these houses to tenants has caused considerable discussion, but the plan now adopted is that of leasing all the houses to a middleman who shall answer for them to the municipal government, collecting rent as for his own property, but being subject to the municipality as to the rent charged, the regulations made, and other matters connected with their administration. The municipality will lease the houses free of taxation (real estate taxation in Brazil is on a rental basis) and probably the rent will be on the basis of about 4 per cent per annum on the cost of the houses. What the exact cost of the houses will be is not as yet known, but owing to the cost of labor, materials, and hardware is approximately three times what the same houses would cost in the average American city.

The houses so far constructed are located in three portions of the city. There are six groups of type A and six groups of type B in the Becco do Rio, near the bay front; two groups of type A and nine of type B, as an example or experiment, in the heart of the city away from the water front; and twenty groups of type A and nineteen of type B in the outskirts of the city, having a hillside site. The intention of the municipal authorities is to continue the construction of the houses indefinitely until there is some change in the relation of supply and demand. [Blueprints of the *houses may* be seen at the Bureau of Manufactures.]

ARGENTINA.

NEW LAW FOR THE PROTECTION OF WOMEN AND CHILDREN.

Consul-General Alban G. Snyder, of Buenos Aires, reports that the working law for the protection of women and children, passed by the Argentine Congress last year, has come into effect.

This law stipulates that women or children shall not work over certain hours in factories and workshops and prescribes conditions for carrying out such work. Children under 16 years of age shall not work over eight hours a day nor more than forty-eight hours a week. Women and children are not to begin work before 6 in the morning nor work after 9 at night, nor are they to be employed in factories where dangerous or unhealthy work is carried on. There are various other rules and regulations, all tending to better the conditions under which women and children work, and various fines are imposed for infractions of the law.

BRITISH INDIA.

SCARCITY OF LABOR AND THE CONSEQUENCES THEREOF.

Consul-General William H. Michael, of Calcutta, reports that for some time there has been a scarcity of laborers in the tea districts and collieries of India, and in May raw jute advanced in price to $14.60 per bale in consequence of the scarcity of cooly labor at the jute press mills. The coolies went to their homes in the country because of their fear of cholera which prevails to an alarming degree in certain congested centers, notably the coal mines. It is said that the collieries will never be free from cholera until a full supply of filtered water is given to the coolies and better general conditions inaugurated.

JAPAN.

DISTURBED RELATIONS BETWEEN CAPITAL AND LABOR.

Consul Hunter Sharp, of Kobe, transmits a copy of an article which appeared in a local English newspaper concerning the growing friction between capital and labor in Japan and the remedy suggested for its settlement:

The article calls attention to Japan having labor troubles as in other countries, and that a solution of the question can only be solved by the adoption of a profit-sharing or cooperating system. The other salient points in the article are the following:

There have existed between the Japanese employer and employed peculiarly friendly and sympathetic relations which are never witnessed in Europe and America. So long as Japan conducted her industries on a limited scale as in the past the master-and-servant system worked with excellent effect, but the conditions under which present-day industries are carried on leave no room for the application of the old principle. The latter is essentially based on intimate acquaintance and sympathy between master and servant; but how can this be possible in factories where hundreds and thousands of men and women are employed?

It would be a mistake to think that long hours are really productive. The best method of increasing production is the emp of at better wages and the restriction of working hours to

INTERNATIONAL TRADE UNIONS.

GROWTH OF ORGANIZED LABOR IN GERMANY AND ENGLAND.

The following information concerning international trade unions is furnished by Vice-Consul Walter A. Leonard, of Kehl, Germany:

According to the fourth report of the International Trade Unions, which has recently appeared, thirteen countries are represented, the United States, France, and Russia being the important nations missing from the list. France was formerly included, but, it is said, on account of strike influences, withdrew.

The latest statistics furnished in this report, which are for the year 1906, show that these thirteen countries had 5,851,215 organized workmen, the number of women included being 372,920. Of this total, Germany had 2,215,165 and England 2,106,283 members. That the labor unions are becoming more and more influential in Germany is indicated by the fact that, while England had more organized laborers than Germany in 1905, a year later—notwithstanding England's increase—Germany outnumbered it by 108,882. Agricultural laborers are organized in seven of these countries; those in Italy with 71,600 and in Hungary with 24,000 members being the only organizations of importance.

The finances of these organizations are claimed to be given completely and accurately. Their total income in 1906 was reckoned to be 108,283,000 marks ($25,771,354), while the expenditures are given as 91,360,000 marks ($21,743,680), and the assets at 150,500,000 marks ($35,819,000).

The following indicates how the money was expended for benefits to laborers: Support of unemployed, $3,064,282; sick benefits, $3,033,026; disabled workmen, $1,633,086; death losses, $404,746; traveling expenses, $235,800; miscellaneous benefits, $689,598.

Thus $9,060,538 was paid to workmen for various benefits, and of this England paid $6,092,800 and Germany $2,213,400. In amounts paid out on account of strikes and boycotts Germany was far in the lead, expending 15,839,318 marks ($3,769,758) for that purpose while England expended only $751,668.

AGRICULTURE.

CROPS AND FARM METHODS.

FRANCE.

INTENSIVE CULTIVATION OF VEGETABLES NEAR PARIS.

The following information concerning French market gardening in the vicinity of Paris is furnished by Vice-Consul-General Dean B. Mason, of that city:

Intensive cultivation of vegetables is carried on to an extent and to a degree of perfection in the immediate vicinity of Paris that has not been attained elsewhere. Not only are vegetables cheaper and better in Paris than in most European cities, but vegetables grown in the immediate vicinity of the city are shipped to London, Germany, Austria, Belgium, and even as far as St. Petersburg.

The English trade is especially important, and large quantities of vegetables sold in London during the winter and early spring are grown under glass in the neighborhood of Paris.

These remarkable results are due to a system of intensive gardening that makes it possible for a family to live comfortably on the produce of from 1½ to 2 acres, by the thrift and skill of the French gardeners.

FRENCH TREATMENT OF THE SOIL.

The French method of treating the soil consists in a continual mixing and compounding of the top soil, the slow and laborious system of trenching employed by English gardeners not being used. With new ground, the French gardener begins by digging out the top soil, which he mixes and remixes with manure, and a thin surface of this soil is laid on the best manure. The heat necessary for the growth of vegetables in winter and early spring is derived from the fermentation of manure. Each gardener maintains a manure pile, which is built up during the summer, the manure being pressed to retard fermentation, which is only partly effected in the pile as the manure becomes dry. The dried manure from the pile is mixed with a smaller quantity of fresh manure when used in the garden. The fresh manure restarts the decomposition of the dried material, which produces a steady warmth whose intensity can be regulated by the quantity and amount of manure used, whereas fresh manure, if used in quantities, would produce an intense heat that would soon give out.

The vegetables raised in the winter and early spring are grown under glass bell jars or glass hinge frames. That the glass is not the whole secret is shown by the amount of lettuce and other greens grown in the early spring between the bell jars. A plentiful supply of water is essential to such a system of cultivation, and the gardens

are provided with motors which pump the necessary water so that all parts of the garden can be sprayed by hose connected with underground pipes.

THE PARIS TRUCK-GARDEN ZONE.

Within a radius of six miles of the fortifications of Paris there are 1,200 "jardins maraîchères," or truck gardens, under intensive cultivation, having an average area of from 1½ to 2 acres each. By far the greater part of these gardens are located within a mile of the city, and quite a number are within the fortifications. Especially to the southeast are to be seen great numbers of gardens, from which thousands of dollars' worth of vegetables, particularly early lettuce, are shipped to the markets of London, Paris, and Cologne.

Land is necessarily very dear, and the price of a 2-acre garden, with house, varies between $10,000 and $12,000, which rents for from $400 to $500 a year. The cost of equipment of such a garden, including petroleum motor necessary for pumping water, glass bells, frames, etc., averages about $5,000.

The cost of equipment is borne by the gardener, who often borrows the necessary capital. The secretary of the Syndicate of Market Gardeners, a practical gardener of long experience, estimates the average yearly savings of the gardeners, after deducting their living and other expenses and interest on their investment, at about $500.

Remarkable profits are sometimes realized by early or fancy crops, an acre of land sometimes producing $6,000 per annum, but such results are exceptional and require considerable skill and increased outlay. The average gardener is satisfied if he can make from $1,500 to $1,600 from an acre and a net income of from $800 to $1,000. Many of the gardeners own the land they cultivate, and in some instances fortunes have been made by the rapid increase of the value of real estate.

A market garden located within a mile of Paris which was personally examined produced annually some $3,200 worth of vegetables on an area of about 2 acres. The rent paid for this farm was $400, and the tenant who worked it could count upon a net annual income of $800 and the use of a simple but comfortable house.

The heaviest items of expense were the wages of four field hands, the purchase of stable manure, the maintenance of a horse and wagon for hauling produce to market, and the maintenance and repair of sashes and glass bells.

The workmen were boarded and paid something over 50 cents per day, the rate of remuneration varying according to the season. When laborers are not boarded they are paid from $1 to $1.20 per day. The cost of manure was between $600 and $800 per annum.

The garden showed every evidence of thrift and industry, and when visited in May there was not a square foot of unutilized space, and this was said to be t[illegible] during the entire year. In some places three kinds of [illegible] a sown simultaneously, the earliest vegetab[illegible] the second was ready for development.

The Par[illegible] by a quick rotation of cr[illegible] s in the winter and spri[illegible] lowered by the

competition of the large truck gardens located on cheaper land, but within easy reach of Paris, and the export trade ceases to be profitable. Certain vegetables bring reasonable profits during the summer—melons, for instance, being even shipped to cities south of Paris. As a rule the gardeners are satisfied if they can make a living in the summer, and they make their profits with the vegetables grown before their natural season.

It is calculated that 100,000,000 heads of lettuce are raised annually in the jardins maraîchères of Paris, the greater part of which are shipped to London and Cologne during the winter and spring, after being wrapped in paper and crated.

Paris is kept supplied with lettuce and other greens during the entire winter, and although the prices paid are higher than in summer they are still within the reach of people of moderate means. Carrots, radishes, cauliflowers, and melons are cultivated on a large scale, and most other vegetables to a more or less important extent.

The existence of the jardins maraîchères in close proximity to the city is due to the facilities for procuring suitable manure at reasonable prices and to the nearness of a great market. The produce sent to Paris is hauled by wagon to the central market and sold by women, the same wagon bringing back from time to time stable manure from the city.

OUTSIDE COMPETITION.

The rapid development of railway facilities has placed Paris in easy communication with the south of France and Algiers, where vegetables can be grown in the open fields the greater part of the year, and it is a striking proof of the value of the system of cultivation practiced by the Paris gardeners that, in spite of this competition and the dearness of their land, the production of the jardins maraîchères is increasing.

The growth of competition and higher prices for manure, wages, etc., have affected the production of the jardins maraîchères, and certain vegetables can no longer be raised profitably. Only a fancy variety of tomato, for instance, whose cultivation requires special pains and skill, and which finds a very limited market on account of its price, brings a fair remuneration. It is also likely that early asparagus, which has been an important product, will eventually be produced only in the south.

It is not considered probable, however, that outside competition can affect the demand for the early lettuce and greens of the jardins maraîchères; it is inferior in quality and not as fresh, as it requires two days to place southern produce on the Paris markets, while the product of the Paris gardens is gathered in the afternoon and sold the next morning.

Especially the more perishable vegetables, and the finer qualities requiring skill and careful cultivation, are produced to a degree of perfection on the jardins maraîchères and bring such good profits as to assure the future prosperity of the Paris gardeners. The greater part of the products of the gardens are exported, and this export trade is increasing.

INTENSIVE GARDENING POSSIBILITIES IN THE UNITED STATES.

The Syndicate of Market Gardeners, one of whose principal objects is to further the export trade, has even investigated the feasibility

of exporting early vegetables to New York, and only the difficulty experienced in obtaining a satisfactory arrangement for the cold storage of its products on the transatlantic liners, and the fact that the growing demand in England offers a sure and profitable market for more vegetables than the growers can supply, has postponed the execution of the project.

According to the census of 1899 the average value per acre of vegetables in the United States was $42.09, and the average value per acre in Queens County, now within the limits of New York City, where conditions are in some respects similar to those of Paris, was $140—the highest average of any county in the United States. As vegetables to the value of $1,600 and over are grown per acre in the jardins maraîchères of Paris it would appear likely that Americans have something to learn from the French in intensive gardening, and the promising results obtained in England tend to show that it may prove profitable.

A severe winter is not feared by the French gardeners, but they do require sunshine, and in that respect the winter climate of the United States is more favorable than that of Paris. There is no reason why vegetables can not be grown throughout the winter by intensive cultivation in the vicinity of the large American cities by following the French methods. Capital is required for the installation of such gardens as have been described, but a commencement could be made on a very small scale.

BELGIUM.

LARGE YIELD OF APPLES CAUSES LOW PRICES—LAST YEAR'S EXPORTS.

Consul H. Abert Johnson, writing from Liege, gives the following information on this season's yield of apples in Belgium and the trade in this fruit:

The apple crop this year in the valley of the Meus promises to be especially abundant. It is reported that fruit is being bought on the tree for 2½ to 3 francs per 100 kilos, or 48 to 58 cents for 220 pounds, exclusive of all charges for picking and shipping the fruit.

It is noticed that the German fruit merchants who each midsummer visit the fruit-growing district of Vise-Tongre and Maestricht have this season been absent. Their failure to make the usual visit to the fruit-growing section of this part of Belgium is due to the fact that the apple crop in the Grand Duchy of Luxembourg and in Alsace and Lorraine is also especially large, thus furnishing supplies, with lower shipping charges, notwithstanding the low Belgium prices.

Belgium exported last year 36,472,779 pounds of apples, valued at $815,914. Of these exports 20,666,901 pounds, valued at $507,669, went to Germany; 6,803,751 pounds, valued at $162,203, were shipped to Great Britain, while 4,886,024 pounds, valued at $109,303, were sent to Holland, and 2,013,400 pounds, valued at $45,141, were shipped to France.

The total value of the imports of apples into Belgium during the past year was $247,233, these imports coming chiefly from Holland and France.

CANADA.

AN EXTENSIVE OUTPUT OF FARM PRODUCTS IN PRINCE EDWARD ISLAND.

Consul Franklin D. Hale, of Charlottetown, submits the following statistics on the agricultural products of Prince Edward Island for 1907 as reported officially by the commissioner of agriculture of that Canadian province:

Article.	Quantity.	Value.	Article.	Quantity.	Value.
Wheat.....bushels..	650,000	$650,000	Cattle exported	.....	$28,000
Oats.....do....	10,000,000	5,000,000	Horses exported.....	.....	230,000
Barley.....do....	200,000	120,000	Hogs raised	.....	450,000
Buckwheat.....do....	49,000	24,500	Lambs exported.....	.....	75,000
Mixed grain.....do....	500,000	250,000	Poultry.....	.....	150,000
Potatoes.....do....	4,000,000	1,000,000	Wool	.....	75,000
Roots.....do....	4,000,000	480,000	Eggs.....	.....	250,000
Hay .....tons..	150,000	2,400,000			
Dairy cheese and butter	.....	100,000	Total	.....	11,582,500
Factory cheese and butter..	.....	300,000			

The commissioner reports that the grains produced in the province are of superior quality, free from weeds, and well adapted for seed grain. During the same year the value of the island fisheries was about $1,220,000, making a total of nearly $13,000,000 as the agricultural and sea product of the province for the year 1907. Prince Edward Island contains only 2,184 square miles, but it is said that with more careful cultivation and use of now uncultivated lands its productivity could be doubled, while the fisheries yield from the adjacent waters could be indefinitely increased.

AZORES ISLANDS.

HOW THE CHICKORY CROP IS HANDLED AND MARKETED.

Consular Agent Thomé de Castro, at the request of Consul John F. Jewell, of St. Michael's, has prepared the following report on the cultivation, gathering, and mode of preparation for market of chicory at Terceira, in the Azores:

Chicory is raised from seed imported from Germany and Belgium, sowed in furrows from the beginning of March to the end of April. When the plants have attained a height of about 1½ inches they are thinned and left at a distance of 9 inches apart. The manuring is done with lupine and dung. Before sowing the land is plowed and harrowed, and after germination well weeded, generally twice.

The leaves are utilized as fodder for cattle. The roots are plucked by hand from October to December and carted to the factories, where, after being chopped with a special root chopper, they are dried in foreign-made apparatus. The yearly production of about 400 tons is all exported raw in bags to Lisbon and there sold at from 60 to 80 reis, Lisbon currency, per kilo (3 to 4 cents per pound).

[The imports of raw, unground chicory root into the United States decreased from $68,312 in the fiscal year 1904 to $41,680 in 1907, while the importation of roasted and prepared chicory increased from $20,175 to $25,690 in the same period. Belgium supplies nearly all the former and Germany over half the latter.—B. of M.]

BERMUDA ISLANDS.

AMERICAN TRUCK FARMERS COMPETING IN SOME PRODUCTS.

Consul W. Maxwell Greene, writing from Hamilton, makes the following report on the truck farming industry in the Bermuda Islands:

Onion raising in the Bermudas is an important industry. In the past there was little competition from the Gulf States, but last year the crop here ripened later than usual on account of a disease (Peronosphora schleidenii), which attacked the plants and destroyed the foliage. Thus the Texas and California farmers who are employing scientific methods and are growing an equally good product, were able to supply the market before the Bermuda onion was ripe. This resulted in a greatly diminished sale at a reduced price for the local product and a loss to the island farmers.

The director of the botanical station, with the help of many growers, has practically eliminated hybrid stock, and also the disease with which the Easter lily bulb has been affected. The Bermuda bulbs that go forward this season may be depended upon as being of a high grade.

With an intense light, a pure and moisture-laden atmosphere, the climate here is specially favorable to banana growing. From 2,000 to 4,000 bunches, valued at 50 cents to $1 a bunch, are taken from an acre. American visitors say it is superior to the West India banana. There are two smaller varieties, called "fig" and "strawberry," which are very delicate in flavor.

BRITISH INDIA.

INTRODUCTION OF NEW PLANTS, TREES, SEEDS, AND FLOWERS.

Consul-General William H. Michael sends the following information from Calcutta on government aid to horticulture in British India:

The annual report of the Royal Botanic Garden shows that a large number of Manicoba rubber plants were introduced into India during the last year from the Royal Botanic Gardens at Kew, England. The plants are of the Manihat species, and are said to yield superior rubber in large quantity.

The government has also introduced into India sugar cane from Barbados, the South Sea palm from Hawaii, and seedless oranges from the United States. Several thousand packets of various kinds of seeds have been received by India from all over the world, and nearly 3,000 packets have been distributed. More than 40,000 plants were distributed and 4,000 were received. The plants and seeds distributed were for the most part of economic value, such as bamboos, fiber plants, and various kinds of trees.

The Douglasdale estate near Naini Tal, India, has been purchased by the government with the object of establishing a testing and propagating station for varieties of fruit, vegetables, and flowers most suitable to the outer slopes of the Kumaon hills.

RUBBER CULTIVATION.

CEYLON.

RUBBER PLANTATIONS DISPLACING TEA FIELDS IN THE ISLAND.

Consul E. A. Creevey, of Colombo, submits the following report, in which he treats of the rapid development of the rubber industry and the ability of Ceylon to compete with Brazil and South Africa:

The cultivation of Para rubber in Ceylon, which dates back to experiments instituted in 1876 at the Government botanic gardens at Heneratgoda, has developed very rapidly within recent years. The acreage is being rapidly increased, the estimate of planting for 1908 being 10,000 acres, while about 120 acres will come into bearing this year.

Although the experiments in growing rubber had been attended with success from the first, the industry was not seriously considered by planters until about ten years ago. Even then the projects were small, and doubtless would have continued so had not the price of tea fallen appreciably, compelling planters to seek another crop as a source of profit. The development of the automobile, with the consequent demand for rubber tires, so enhanced the price of rubber that the Ceylon planters turned to its cultivation with avidity.

The returns for the year 1904 showed 25,000 acres planted, with 600 acres in bearing; for 1905, 40,000 acres planted, with 1,000 in bearing; for 1906, 100,000 acres planted, with 2,000 in bearing, and for 1907, 150,000 acres, with 2,500 in bearing.

The figures named are approximate only, because on many estates tea and rubber are interplanted. Cacao also is interplanted with rubber. The prospect is that if present prices of rubber are maintained, in many instances tea and cacao will be removed from the interplanted areas.

CAPITAL INVESTED, PRICES, AND COMPETITION.

This interplanting of rubber with other plants has the effect of involving the same capital in more than one enterprise, and for that reason the amount of capital invested in rubber cultivation in Ceylon can not be stated accurately. A competent agricultural authority, taking into account the varying ages of the different plantings, estimates that the total of the amounts expended to date on rubber growing in Ceylon is close to $9,000,000. Likewise it is hard to estimate the working forces engaged in the production of rubber, as many of the superintendents make tea the principal crop, but it is probable that rubber requires the attention and labor of 250 Europeans and between 75,000 and 100,000 Tamil coolies.

Recorded exports of Ceylon grown rubber are: 1904, 35 tons; 1905, 75 tons; 1906, 150 tons; 1907, 397.2 tons; January 1 to May 11, 1908, 113.16 tons. London is the chief market for Ceylon rubber, but exports to Antwerp and New York are growing.

With rubber selling at 84 to 96 cents per pound, the prices most recently quoted, the planter finds a handsome profit in its production. The estimated cost of growing and marketing a pound of Ceylon plantation rubber is between 25 and 30 cents. Labor, the principal factor

in determining the cost, is very cheap, the day's wages of the Tamil coolie ranging between 25 and 35 rupee cents ($0.083 and $0.1166).

Ceylon planters view with equanimity the great increase in acreage, as they expect that the increased output will be provided for by the new uses to which rubber is constantly being put. Comparing the cost of production in Ceylon with the cost in Brazil and the Kongo, they maintain that the risks are greater of Brazilian and Kongo rubber falling below the profitable margin, and so leading to a decrease in rubber shipments, than of Ceylon's plantations going out of cultivation through a fall in the price.

FEDERATED MALAY STATES.

RAPID INCREASE IN THE OUTPUT OF CULTIVATED RUBBER.

Vice-Consul-General George E. Chamberlin reports from Singapore that the rapid increase in the output of cultivated rubber from the Federated Malay States is shown in the following table, which gives the amount exported during the first four months of the years 1907 and 1908 from the three States in which rubber cultivation has been extensively introduced:

	1907.	1908.	Increase.
	Pounds.	*Pounds.*	*Pounds.*
Perak	71,853	137,507	65,654
Selangor	389,784	551,730	161,946
Negri Sembilan	136,273	275,943	139,670
Total	597,910	965,180	367,270

INTERNATIONAL INSTITUTE.

RECENT MEETING AT ROME OUTLINES THE PERMANENT ORGANIZATION.

In compliance with the request of Mr. David Lubin, the permanent delegate of the United States to the International Institute of Agriculture at Rome, Ambassador Lloyd C. Griscom furnishes the following report of the first session of the permanent committee held in the Italian capital from May 23 to June 6:

The committee brought together a number of distinguished men. Great Britain was represented by the permanent undersecretary of agriculture; the Russian delegate was a former minister of agriculture; Count Faina, the Italian delegate, who was elected president of the permanent committee, is president of the Italian Royal Agricultural Commission. Several countries were represented by their ministers plenipotentiary in Rome, and the delegate of the German Empire was the commercial attaché of the German Embassy in Rome. The full list of delegates accompanies Mr. Lubin's report.

At the opening of the meeting it was seen that all the Powers unanimously desired to proceed very cautiously and conservatively in the organization of this institute. The general desire was to create a good international statistical bureau where a summary of the world's production would be accurately compiled.

A number of visionary propositions have been attributed to this institute in the public press and elsewhere, but at the meeting of the

committee not a single radical suggestion was made. The committee rapidly discussed a proposal for the organization of the institute, which is to be submitted at the next meeting of the general assembly of the institute. The committee adjourned to sit again on November 10, and the general assembly of the institute will be called again on November 20, to sit until the last of that month.

A committee of eight was appointed to carry on certain work between the adjournment and the November session. Our delegate, Mr. Lubin, was made a member of this committee, and he has been asked to present at the November meeting the ideas of the United States Government as to how the institute should be organized. It is therefore expected that Mr. Lubin will be fully equipped in November to speak for our Departments of Agriculture and Commerce and Labor.

I derived a general impression from all the delegates with whom I came in contact that they came to the recent meeting of the permanent committee very doubtful as to whether any really valuable results would come out of this institute. After meeting and exchanging ideas they went away with a much more hopeful feeling.

A meeting of so many intelligent men has developed a number of valuable ideas and the impression became general that the institute will have a useful mission. The real value of the recent meeting was in the personal contact and exchange of views between the delegates.

In regard to the meeting of the general assembly called for in the autumn I may point out that we will be expected to be represented by from one to five delegates. In this connection it is to be hoped that the Departments of Agriculture and Commerce and Labor will see fit to be represented by distinguished delegates who should have at their disposal some expert advisers. One of these experts might remain in Rome as our permanent delegate if it is thought advisable. All the ambassadors in Rome of the various powers will doubtless be delegates to the general assembly.

CAMPHOR IN SOUTH CHINA.

PLANTING MOVEMENT IS FOSTERED BY THE BOARD OF AGRICULTURE.

Vice-Consul-General George E. Chamberlin forwards from Singapore the following extract from an article appearing in the Straits Times:

New developments are reported in South China in connection with the camphor trade. Travelers have long known that there are many groves of camphor trees on the North River, and especially throughout the Kuk Kong Hsien. As they are needed for making furniture and boxes, these trees have in the past been felled and sawed up into planks, though apparently the trade has not been very extensive when the number of trees and their age is considered. Some of these groves contain many trees of huge growth, and they must have been there for centuries. One small town is called Camphor Tree Town.

It appears that the board of agriculture sees that there are considerable possibilities in the situation, and there is a move on foot to endeavor to start a trade in camphor that shall be useful to the people themselves, by giving them employment, and also for the purpose of trade generally. Already efficient persons have been sent to examine into the possibilities, and they have reported favorably. One of the plans of the board is to prepare the camphor for the market on the spot, and it is reported that 100 men who are familiar with the way in which camphor is prepared are being engaged for this purpose.

SOUTH AMERICAN LIVE STOCK.

LESS PROMISING RECORD FOR THIS SEASON THAN LAST YEAR.

Consul-General George E. Anderson writes from Rio de Janeiro that live-stock returns for the east coast of South America generally do not promise as good a record this year as in 1907, his trade review following:

According to figures published in Brazil, Argentina, and Uruguay the killings in the three countries up to the first week in April are fully 10 per cent less than in the corresponding period of 1907. The figures reported for Argentina, Uruguay, and the Rio Grande do Sul up to April 5, 1908, for all killings are as follows:

	1908.	1907.
Uruguay	443,900	478,600
Argentina	107,300	182,400
Rio Grande do Sul	280,000	263,000
	831,200	924,000
Killed for extract purposes	149,200	152,200
Total killed for meat	682,000	771,800

The returns for Rio Grande do Sul are said to be somewhat incomplete, but the record for the same period of last year was faulty to probably the same degree.

Exports of hides from Rio Grande do Sul for the first four months of the year show even a greater falling off. The record from January 1 to April 30 for several years is as follows (no salted hides being recorded for the United States):

Year.	Salted hides.	Dry hides.		Total.
	Europe.	Europe.	United States.	
1908	197,032	70,510	.....	267,542
1907	224,362	109,430	5,000	338,792
1906	167,477	114,808	5,000	287,285
1905	147,004	153,324	8,571	308,899
1904	285,435	93,525	11,015	389,975

Recent statistics give the number of cattle grazing in the State of Rio Grande do Sul at 5,706,344 and of horses at 1,036,894. The number of sheep is placed at 2,185,306.

FOREST DEVELOPMENT IN JAPAN.

GOVERNMENT AIDING RUBBER PLANTING AND OPERATING LUMBER MILLS.

Consul-General Henry B. Miller, of Yokohama, supplies the following information from a Japanese publication relating to the progress being made by the Tokio government in taking measures to acquire information for the development of the forestry business:

Recently an official in the department of agriculture and commerce was sent to the United States and others to Europe for the inspection of the timber trade and forestry administration. A commission was also sent to India for the same purpose. A specialist on forestry in the same department is to be

sent to South America shortly on a similar errand. The latter will thoroughly study the rubber plantations, and, if possible, bring back roots or seeds for planting on the Bonins and Luchu groups.

The department of agriculture and commerce, which established a sawmill in Akita prefecture in 1906, making a grant of $100,000 in that year and $150,000 in 1907 to develop the business, has obtained a vote of $150,000 toward the fund for the extension of the lumber business, and new Government mills are to be established in Nagano and Aomori prefectures. Before the end of this year there will be 9 timber mills in all in Akita, Aomori, Miyagi, and Kumamoto prefectures, all worked by the Government. The director of the forest bureau admits that Japan is the only country in the world which takes upon itself the working of the lumber business. In many forests reserved by the Government there is an almost inexhaustible supply of timber, but these forests are remote from railways, rivers, or seaports, and much expenditure is necessary for opening roads or constructing other means of transport in order to make such timber available. District forestry offices will, however, not work mills regardless of profit, as strong competition is going on among them. It is stated that the Government mills will only supply their products to merchants in Japan, and the works are not yet progressed to such a stage that the Government can export direct. So far, the export of timber by the Government mills has been confined to supplying sleepers to the South Manchurian Railway Company.

VANILLA VERSUS VANILLINE.

THE BEAN THREATENED BY ITS CHEMICAL COMPETITOR.

In reference to a proposed petition by French colonists to the home government for protection against "vanilline," which threatens their vanilla industry, Consul Julius D. Dreher, of Tahiti, Society Islands, has compiled the following from French colonial publications:

The consumption of vanilline in France is 66,000 pounds per annum, and of vanilla 132,000 pounds, but the amount of vanilline consumed equals in strength 6,600,000 pounds of vanilla, while the world's production of vanilla is only 1,221,000 pounds. The 132,000 pounds of vanilla consumed in France pays the Government a duty of $24,125, while vanilline pays nothing.

Considering the strength of vanilline and its decreased price, as a result of improved methods of manufacture it has fallen from $6.85 a pound in 1876 to $3.33, its present price, and as it is claimed that a pound of vanilline is equal in power as a perfume to 100 pounds of vanilla, it is now cheaper to use the chemical—for vanilline is wholly a chemical production, without any vanilla whatever in its composition.

The French colonists, who produce more than one-half the world's production of vanilla, do not ask their Government to prohibit the use of vanilline; they only ask that its fraudulent use be prohibited by law. Their petition reads as follows:

(1) That in conformity with the law against frauds, the sellers of articles containing a chemical perfume instead of vanilla be required to make that fact known to the purchasers thereof.

(2) That the sellers be prohibited from using for a chemical product the name of vanilline.

(3) That a duty be levied on vanilline equivalent to that paid by vanilla, and as vanilla pays 18 cents a pound, vanilline, being 100 times more powerful than vanilla, should pay $18 a pound.

In presenting the case of the colonists the fact is cited that in the United States laws are already in operation to prevent the fraudulent use of such chemical products as vanilline, and that the people of

the United States, while producing no vanilla, are the largest consumers thereof in the world.

[The American importation of vanilla beans in the fiscal year 1907 amounted to 969,032 pounds, worth $1,523,156. About one-half came from Mexico, while one-third was shipped from France. The bean is admitted free of duty, while vanilline pays 80 cents per ounce, the 1907 imports amounting to only 100 ounces, worth $320.—B. of M.]

BLOODED HORSES IN ECUADOR.

AMERICAN THOROUGHBREDS IMPORTED—INTEREST IN RACING SPORT.

Minister Williams C. Fox writes from Quito that it will interest American horsebreeders and others to know that the first attempt to import blooded horses from the United States to Ecuador has been very successful, the report continuing:

This was done some months since under the auspices of the Quito Hippodrome Association. The string consists of six Kentucky-foaled thoroughbreds—one stallion (sired by Watercolor) and five fillies, all under 2 years old. These animals were brought via New Orleans and the Isthmus of Panama to Guayaquil; thence by rail to the vicinity of Quito. They stood the hard journey remarkably well and are now in first-class condition, the high altitude having apparently no disturbing effects upon them.

The sport of horse racing is well patronized in Quito and the meetings are important social events. The bringing of North American thoroughbreds will create added interest, as they will compete with those of Chile. However, the native Ecuadorian horses, though small, are often very fast runners. Much interest is also being manifested in the prospective crossing of the Kentucky strains with the Chilean and Ecuadorian.

IRRIGATION FOR CHILE.

ARTESIAN WELLS PROPOSED TO SUPPLY WATER IN THE NORTH.

Consul Alfred A. Winslow, of Valparaiso, reports that the Government of Chile is giving the water-supply question for the arid regions in the northern part of Chile considerable attention, adding:

The Government now has a project under consideration to see what can be done by way of irrigation by means of artesian wells in that region. It is recognized that all those barren plains need to make them the garden spots of the world is moisture. For that reason soundings are to be made in that part of the country to determine what the subterranean supply may be.

Julio Duplaquet, a Government engineer, has been designated by the minister of public works to first make investigations in the vicinity of Copiápo, where it is also proposed to supply the city with artesian water. Copiápo is a city of about 12,000 inhabitants, and is situated in the arid regions about 350 miles north of Valparaiso. Rain has not fallen in that part of Chile for ages, and the few streams in that part of the country are fed by the melting snow on the west slopes of the Andes. The geological formation indicates that there must be subterranean streams flowing from the same source to the Pacific Ocean.

OLEAGINOUS PRODUCTS.

OLIVE OIL INDUSTRY.

ITALY.

GOVERNMENT ACTING AGAINST THE ADULTERATION OF OLIVE OIL.

Consul James E. Dunning, of Milan, presents the following information of the efforts of the Italian Government to insure the purity of olive oil, and of the statistics of exports:

The royal commission appointed by the Italian Government as a part of its determined effort to stop the adulteration of olive oil, has reported that it approves the method proposed for the application of the new law of April 8, 1908, which has prevention in view.

The law provides for the strictest inspection and accountability among all manufacturers, shippers, dealers, and storehouse keepers. Elaborate provision is made for the testing and analysis of samples, and for the taking of samples by Government hands and in the actual presence of Government officials empowered under the new law so to act. Whenever there results from the analysis, which must be made "as speedily as possible," evidence of fraud in the preparation of the oil, immediate proceedings must be instituted by the inspecting officials before the proper judicial authorities of the country.

An important paragraph in the regulation governing the enforcement of the new law provides that exporters of olive oil who desire to have the purity of their product established at their own request may do so by application to the authorities of the custom-houses through which they ship out of Italy. The customs officers are required to take samples and make the analysis without delay, and to issue thereupon a certificate of purity should such action be justified by the test.

A small tax is placed upon oil tests made by customs authorities at the request of the exporters. As the consulate has already stated in a special report on the subject, there is every evidence to show that practically all Italian export olive oil is pure on leaving Italy.

GOVERNMENT TO AID THE TRADE AND INDUSTRY.

The great irregularity of the Italian olive crop, rendering the export feature of the trade extremely difficult and creating the necessity for making large imports of cotton-seed oil from the United States to supply the deficiency of short years, has induced the Government to take action toward the improvement of olive culture much like what it has done to establish a high standard of purity for the exported oil. Early in May a Government commission, appointed to deal with the difficulties surrounding the cultivation of olives and the creation of a more or less regular output of oil, met at Rome.

Among the questions discussed by the commission, according to the reports which have reached the consulate through various good sources

of information, were the new law for giving official character to certificates of purity; the establishment of premium competitions in the oil-producing districts to encourage cultivation among the farmers; the result of experiments conducted by the Government's experts during 1907 in the search for a better means of attacking the parasites characteristic of olive culture; the proposals related to a further campaign against insect pests during 1908, and a study of a long report rendered by a member of the commission on the diseases of olive trees.

The attitude of the Italian Government toward the whole matter probably means that eventually there will be a considerable falling off in the amount of American cotton-seed oil imported into Italy to make up for short crops here, while it appears to the consulate to absolutely sustain the contention of this office that adulteration is practically unknown in Italian export oil. Most of the adulteration which is under official consideration takes place in Italy, it is believed, by mixing cotton and other oils with the native olive oil. It is safe to say, however, that the Italian olive oil shipped to the United States is pure. At all events, it is now the intention to fix that purity by means of an official standard.

OLIVE OIL EXPORTS LAST YEAR.

Italian exports of refined olive oil in 1907 in quintals of 220.46 pounds each are stated by the customs authorities, with a comparative statement for 1906 and 1905, as follows:

Exported to—	1907.	1906.	1905.
	Quintals.	*Quintals.*	*Quintals.*
United States	29,188	71,400	38,687
Austria-Hungary	28,998	22,203	7,752
Germany	15,690	11,132	5,490
Great Britain	5,861	9,432	4,102
Holland	12,648	23,519	8,463
Switzerland	7,626	11,294	6,936
Egypt	15,353	19,285	4,867
Other countries	8,536	8,894	4,900
Total	124,881	177,172	81,658
Total value	$1,491,122	$2,051,652	$945,600

The second table shows the exports of all other grades of olive oil to the various countries named in the custom-house records:

Exported to—	1907.	1906.	1905.
	Quintals.	*Quintals.*	*Quintals.*
Austria-Hungary	19,013	25,834	18,293
France	60,766	116,312	43,191
Germany	17,793	21,222	11,058
Great Britain	25,000	29,737	22,184
Russia	26,677	22,854	29,765
Switzerland	7,124	8,819	5,668
Egypt	2,636	5,810	1,956
United States	82,198	95,258	52,577
Brazil	14,495	12,320	8,820
Argentina	90,347	109,194	58,256
Uruguay	9,402	8,190	3,893
Other countries	32,976	33,032	17,440
Total	388,427	488,582	273,101
Total value	$9,370,801	$11,787,041	$6,852,104
Grand total	513,308	665,754	354,759
Grand total value	$10,861,923	$13,838,693	$7,797,704

The home production of Italian olive oil in 1906–7, one of the regular "off years" for the crop, is stated by the Milan Commercial Museum to have been 1,113,350 quintals, which is the lightest crop since that of 1896, excepting only the yield for 1899, which was 870,000 quintals.

FRANCE.

ANNUAL PRODUCTION FROM OLIVES, SESAME, AND PEANUTS.

In reply to inquiries from the United States, Consul-General Frank H. Mason, of Paris, furnishes the following report covering the production of olive, sesame, and peanut oils in France:

There are no published official statistics which give the annual production of olive oil in this country. The ministry of agriculture reports each year the total crop of olives and an estimate of the proportion of the same that may be used for pickling and eaten in a more or less fresh condition. The remainder, it is assumed, is used for the manufacture of oil, and it has been found that French olives, year by year, yield on an average 12 per cent of oil. Calculated on this basis, the yield of olives and olive oil during the past five years has been as follows, in metric tons of 2,204.6 pounds:

Year.	Olives crushed.	Yield of oil.
	Tons.	*Tons.*
1902	133,482	16,200
1903	93,978	11,280
1904	124,200	14,900
1905	85,182	10,222
1906	89,768	10,772

In addition to the home-grown crop, France derives from her African colonies of Tunis and Algeria an even larger quantity of olive oil than it produces at home, the total importation in 1906 being 47,753 tons, of which 19,258 tons were imported from Tunis and Algeria, the remainder being imported, in the order of quantity, from Italy, Spain, Greece, Turkey, etc.

This, home produced and imported, would give the total olive-oil supply of France in 1906 at 58,525 metric tons (15,460,549 gallons), of which 22,218 metric tons were exported, leaving 36,307 tons for home consumption.

SESAME SEED AND OIL.

There are no Government statistics published which show the production of sesame oil in France, and the only trustworthy estimates are those based upon the imports of seeds, which yield, on an average, 43 per cent of oil. On this basis the output during the past five years has been as follows, in metric tons:

Year.	Imports of seeds.	Yield of oil.
1902	82,450	35,452
1903	134,833	57,978
1904	96,844	41,643
1905	51,411	22,107
1906	61,194	26,313
1907	68,502	29,456

Of the total product of sesame oil about 75 per cent is edible, the rest is used for the manufacture of soaps and other industrial purposes.

PEANUT OIL.

Arachides or peanuts are imported into France from East Africa, the British and Dutch East Indies, Argentina, Algeria, Senegal, Australia, and the United States. Those imported as nuts in the shell yield edible oil, while decorticated peanut kernels produce inferior grades of oil, which are used mainly for soap making.

The nuts yield about 30 per cent of their net weight in oil, while the kernels produce on an average 40 per cent. Calculated on this basis from the whole imported supply of nuts and kernels, the total product of peanut oil, edible and industrial, during the past six years has been as follows, in metric tons:

Year.	Imported in the shell.	Yield of edible oil.	Imported in the kernel.	Yield of industrial oil.
	Tons.	*Tons.*	*Tons.*	*Tons.*
1902	98,200	29,460	117,200	46,880
1903	139,600	41,880	98,000	39,200
1904	126,300	37,890	108,000	43,200
1905	95,700	28,710	98,600	39,440
1906	98,200	29,460	111,200	44,480
1907	154,300	46,290	110,400	44,160

Although derived, as before stated, from estimates based upon the amount of raw material consumed, the foregoing statistics of oil production in France are substantially correct, and no other or more definite statistics on the same subjects are obtainable.

MEDITERRANEAN COUNTRIES.

GENERAL STATISTICS RELATING TO OILS AND OIL SEEDS.

Consul-General Robert P. Skinner, of Marseille, makes the following report on the traffic in oleaginous products in Mediterranean countries:

An examination of the commercial statistics shows that the annual average production of olive oil in the ensemble of the Mediterranean basin is about 820,000 tons (820,000,000 kilos), or 9,000,000 hectoliters (237,753,000 gallons). This average production, based upon unofficial figures from all producing countries up to and including 1906, is divided as follows:

Country.	Hectoliters.	Gallons.	Country.	Hectoliters.	Gallons.
Portugal	398,150	10,517,947	Greece	601,411	15,887,502
Spain	2,666,000	70,427,843	Tunisia	301,100	7,954,172
France	333,000	8,796,877	Algeria	231,000	6,102,338
Italy	2,604,330	68,798,703			
Austria	65,366	1,726,794	Total	9,180,357	242,517,932
Asiatic Turkey (with Crete)	1,980,000	52,305,756			

It is calculated that the production of olive oil in France represents 12 per cent of the crop of fruit. This would make the oil yield of

1907 10,772 tons. The following figures obtained from the ministry of agriculture covering the production of olives in France do not include the yield of Algeria and Tunis. The oil production of Algeria in 1906–7 was 10,400 tons and of Tunis 27,000 tons.

Season.	Tons.	Season.	Tons.
1896–97	138,911	1902–3	133,482
1897–98	92,533	1903–4	93,978
1898–99	141,897	1904–5	124,204
1899–1900	90,494	1905–6	85,182
1900–1	108,579	1906–7	89,768
1901–2	106,271		

The average crop figures out 111,553 tons and the average value $4,048,986.

The importations into France for domestic consumption of certain oils and seeds, quantities in tons of 2,204 pounds, has been as follows:

Year.	Oils.			Seeds.			
	Peanut.	Sesame.	Cotton.	Peanuts, shelled.	Peanuts in shell.	Sesame.	Cotton.
1907	825	17	34,059	117,404	163,241	68,502	38,548
1906	165	140	37,430	114,210	109,873	61,194	35,240
1905	13	88	42,072	100,746	102,901	53,721	35,502
1904	14	51	23,272	110,067	134,650	101,647	20,112
1903	9	11	21,605	100,339	146,888	138,266	30,158
1902	27	7	28,337	119,451	104,944	83,412	46,959
1901	25	10	42,595	58,132	120,408	73,567	44,747
1900	1	10	49,361	24,296	134,266	69,689	50,125
1899	2	7	72,830	11,786	94,495	76,826	45,465
1898	8	10	66,555	4,764	93,684	68,673	56,357

The share of Marseille in certain French oil and seed importations has been as follows:

Year.	Cotton oil.	Peanuts, shelled.	Peanuts in shell.	Sesame seed.	Cotton seed.
1907	22,366	113,219	123,304	68,836	15,884
1906	22,836	111,158	78,677	61,416	18,391
1905	32,448	96,649	56,031	46,506	14,149
1904	15,003	100,971	80,049	88,144	12,951
1903	15,304	85,717	95,296	123,239	14,972
1902	14,794	107,656	64,132	72,881	22,394
1901	34,323	61,136	74,866	65,387	23,132
1900	34,582	23,847	81,655	66,271	13,126
1899	49,239	9,579	61,241	61,532	29,629
1898	52,962	5,466	63,286	69,222	27,283

ALGERIA.

ANNUAL PRODUCTION OF OLIVE OIL.

Consul James Johnston, of Algiers, writes that the production of olive oil in Algeria for the season of 1905–6 was 43,986 metric tons of 2,240.6 pounds each, against 41,898 tons in 1904–5; 28,608 tons in 1903–4; 21,782 tons in 1902–3; 25,055 tons in 1901–2, and 21,890 tons in 1900–1901. There are no official statistics prior to the last-named period.

CHINESE BEAN OIL.

MANUFACTURE INTO OIL AND CAKE IN SHANTUNG.

Consul Wilbur T. Gracey, of Tsingtau, transmits the following report relative to the production of beans and bean oil in the Chinese province of Shantung:

One of the principal exports from Tsingtau is bean oil, produced in the Shantung hinterland, amounting in 1906 to 146,160 hundredweight, in addition to 108,859 hundredweight of peanut oil. In the same year the export from all China of bean oil, peanut oil, tea oil, wood oil, etc., was 430,866 hundredweight, valued at $8,504,440 United States currency. The export of the oils alone from Tsingtau during the year 1906 was valued at $952,428. The refuse from the beans was pressed into bean cakes and exported from China to the amount of 2,423,834 hundredweight, valued at $10,136,611, the shipments from Tsingtau being 57,457 hundredweight. The method of producing the oil cakes may be of interest.

In Shantung province only one crop of beans is grown annually, a Chinese mau (4,200 square feet) of land producing about 300 pounds of beans, 10 per cent of which is saved for planting and the remainder sold or made into bean oil and bean cakes. It is estimated that 100 pounds of beans will produce approximately 10 pounds of oil.

The vines are grown on wooden framework. Small pine poles or stout bamboos form the upright stanchions, with crosspieces of smaller bamboos, and a series of even smaller poles covering the whole roof of the structure and supporting the weight of the vines. The cost of the large stanchions is from $1 to $2 gold each, large bamboos being about 25 cents to 50 cents each, and the smaller ones from 5 to 10 cents.

HARVESTING AND PRESSING.

The bean vines are cut entirely by hand with a primitive hook-shaped knife manufactured from iron and sold at a small price. (It seems doubtful therefore whether American-made reaping knives could find a sale unless they could be produced at prices which would compete.) They are dried on the hillsides or on the thrashing floor of the village and the pods removed by a small stone roller pulled by an ass or, occasionally, by the farmer's wife or by the use of a flail. Each village farmhouse has its thrashing floor, a patch of smooth ground about 50 feet square. The beans are separated by winnowing, a small wooden fork or shovel being used to throw pods in the air on a windy day, the chaff being carried away by the wind. No modern machinery is used for any of these processes.

The oil is extracted and bean cakes manufactured in one process. A rough press is constructed of wood and iron, a sketch of which is forwarded [and filed at the Bureau of Manufactures]. A cylinder of iron has a solid wooden top, upon which a crossbeam is supported which runs through a long slit in two heavy poles on either side of the cylinder. These stout wooden stanchions are from solid pieces of wood, planted solidly in the ground.

The beans are boiled for some time to soften them, then measured off into rough cloth bags. Four of these bags are placed in the iron cylinder, separated by round slabs of wood. A heavy cover is placed on top, the strong pole placed across this and through the slits in the

upright stanchions, small wedges driven in between the cross pole and the stanchions, and with continual driving of more and more wedges the oil is extracted from the beans, running off into a trench which surrounds the cylinder, the beans in their bags being pressed into cakes about 18 inches in diameter and about 3 inches thick. The cloth bags are then removed and preserved for future use, the resulting hard cake being the well-known bean cake of China.

In Shantung Province bean cakes are manufactured principally in and near the towns of Kiaochow and Kaumi, though bean-cake presses can be found in use outside most of the big cities to the north of Tsingtau.

SHIPPING AND PRICES.

The average price of bean oil is from 4½ to 6 cents per pound. Most of the shipping of these products is carried on by natives almost entirely by Chinese vessels, each carrying 300 to 400 "baskets" of oil. These baskets are really large jars—a basket contains about 200 pounds of oil—with earthenware covers, which are sealed by paper seals, the entire jar being covered with a willow basket work for protection, and it is from this covering that they derive their name.

Bean cakes are not packed, being easily transported as though they were solid pieces of wood. The average price is about 1½ cents gold for 1⅓ pounds, and a whole cake sells at 60 cents to 70 cents. They are sent in large quantities to other parts of China and to Japan, where they are used for feeding cattle and fertilizer. The oil is exported principally to South China.

A peculiar fact which has recently been communicated to me is that cattle fed with a certain amount of bean cake in their food produce milk which contains from 7 to 8 per cent butter fat, while the ordinary cow's milk contains only about 3 to 4 per cent of fat.

COTTON-SEED OIL.

BRITISH INDIA.

PRACTICAL TEST OF A SAMPLE LOT OF SEED IN A SOUTH CAROLINA MILL.

Consul E. Haldeman Dennison, of Bombay, makes the following report on an experimental shipment of India cotton seed sent to an American manufacturer of cotton-seed crushing machinery for the purpose of having a seed-crushing test made of it with American machinery:

The manufacturer shipped the seed to a mill using his machinery in South Carolina. The report submitted on the test is most favorable and states that there is no doubt of American machinery being able to crush the seed successfully. This seed was nearly a year old when it reached the American mill, and even better results would have been obtained had the seed been freshly gathered and a larger quantity sent. The Indian seed is small and fuzzy and the report suggests that a fine perforated metal be used on the machinery in order to improve the separation of the hulls from the meats and thus obtain a greater yield of oil. The following is a part of the report referred to:

We are sending you a case of cans of samples of goods received from the Indian cotton seed shipped to the Taylor Manufacturing Company, at Columbia,

S. C. We will first explain the samples, which we have tagged so that you might fully understand the situation. Ordinarily there are four merchantable products that are manufactured from cotton seed, and these products may be subdivided into a larger number. For example, the products when divided roughly into four classes would be oil, hulls, oil cake, and linters. The subdivision of these different products in the oil is the different grades of oil, crude and refined. The oil cake may be ground to meal, and there is only one grade of hulls. The linters may be subdivided into different grades.

With the above description we are sending you a can of crude oil, which is very dark—much darker than the oil extracted from the average American seed. The writer did not see the seed before going to the mill, but from the general appearance of the oil we should imagine it might have been sometime heated to have produced so dark an oil. Sometimes if the seed is not given proper care from the time it is harvested until the oil is extracted the seed will ferment, darken the meal, and consequently darken the oil.

We also send a sample of the oil after it has been through the first refining process. It is a bright yellow and suitable for many purposes that the crude oil would not be. This refined oil probably could be carried through still further refining processes and a much lighter color and possibly an oil with less odor and taste could be made from the grade of seed. It certainly could be from a well-cured and well-ripened seed.

Our chemists have taken four analyses of the seed that you sent them and find that 2.11 per cent of the weight of seed was sand and dust. After this had been extracted the meats or kernel of the seed indicated 50.47 per cent; the hulls or covering of the seed, including the lint, 49.53 per cent; the oil in the meats, 34.85 per cent. The analysis of the ground cake after all the oil was extracted shows it was possible to extract under the rather unfavorable circumstances the following percentages: Moisture, 8.5; oil, 5.58; ammonia, 5.11; protein, 26.25. This is a very small percentage of protein, as the American meal averages from 40 to 45 per cent protein. Chemical analysis shows that there was left in the hulls from imperfect milling, caused by the seed being of different size and machines not adapted to this small-sized seed, a total loss of the entire amount of seed of 4.17 per cent, but if machinery was designed to especially work this seed, this loss would be reduced to a very small percentage.

Figuring 2,000 pounds of seed as bought or delivered at the mill, the test figures out as follows:

Description.	Uncrushed product.	Oil content.
	Pounds.	*Pounds.*
Seeds delivered	2,000	
Loss in milling, 8 per cent	160	
Actual seed to be accounted for	1,840	
Meats in same, 50 per cent	920	
Oil in meats, 34.8 per cent		320
Cake produced	1,107.7	
Containing oil, 5.58 per cent		61.8
Hulls produced	485	
Containing 1.2 per cent oil		6
Oil yield as per first report		227.5
Oil accounted for		295.3
Deducted from amount in meats		295.3
Leaving oil unaccounted for		24.7

BRITISH SOUTH AFRICA.

IMPORTATIONS OF COTTON-SEED OIL—TARIFF CHANGES.

Concerning the imports into British South Africa of American cotton-seed oil, Vice-Consul-General George L. Foster writes from Cape Town:

The annual statistics published by the customs authorities show an increase in the importations of cotton seed oil into British South

Africa from the United States from 108,885 gallons in 1906 to 118,018 gallons in 1907. At the same time the statistics show that there was a falling off of from 43,698 gallons in 1906 to 34,470 gallons in 1907 in the importations of salad oil from the United States.

As the custom-house here states that certain importations of salad oil from the United States were cotton-seed oil, it is more than likely that the rise in importations is due to more of the cotton-seed oil imported in 1907 being declared as such and not as salad oil, as was the case before that time. The reason for any increase in importations in the early months of 1908 is, doubtless, that it is expected that the customs conference will levy a 15 per cent ad valorem duty on cotton-seed oil in barrels, the same as has heretofore been charged on cotton-seed oil in bottles or cases. Importers and shippers are, doubtless, taking advantage of the free entry of cotton-seed oil in barrels to get stock into the country before the coming into effect of a new tariff. It is also stated that it is usual for importers to order larger shipments during the first months of each year than during other months. [Since this report was written the proposed duty of 15 per cent ad valorem on cotton-seed oil " in bulk, not intended for manufacturing purposes," has been put into effect provisionally, pending ratification by the parliaments of the colonies constituting the South African Customs Union. The ratification is confidently expected.—B. of M.]

The principal grades of oil imported here are said to be " winter strained " and " summer yellow." [The firms importing cotton-seed oil into Cape Town are listed at the Bureau of Manufactures.]

CHINESE WOOD OIL.

EXTENSIVE SHIPMENTS TO UNITED STATES—INDUSTRIAL USES.

Vice-Consul-General Albert W. Pontius, in reporting that the total exports of wood oil from Hankow for the year 1907 were valued at $2,657,532, of which amount $554,051 worth was shipped to the United States, adds:

The shipments so far this year indicate that the 1908 figures will show a considerable increase over those for the preceding year. The following information on China wood oil will no doubt prove of interest to the American consumer:

Wood oil, which is fast becoming one of the staple market products of central China, and of which considerable quantities are shipped from Hankow, is obtained by cold pressure from the nuts of the tung tree, which grows extensively in the Yangtse Valley. Recently it has been used to some extent in the manufacture of varnishes of various descriptions.

Its peculiar property of drying flat, with a surface very similar to that shown by ground glass, has up to the present time prevented its use to any great extent in the manufacture of paint. Alone or with pigments, it dries with a dead appearance, and even when used in a small proportion with other oils and varnish it tends to cause a " flatting " and sometimes crinkling surface to whatever it may be applied. The former property has been utilized to produce varnishes in which wax was formerly used as an ingredient. China

wood oil has other peculiarities which render it vastly different from all other drying oils. The odor is very characteristic and stubbornly resists destruction, regardless of the manner in which the oil is treated. This admits of its identification when present in but small proportions in varnishes, etc., regardless of other constituents.

OTHER VALUABLE PROPERTIES.

Another very interesting property is the instant change into a jelly-like substance when heated to 300° C. The material this produces is insoluble in all ordinary solvents, and cannot be melted by further heating. The properties of this oil which have brought it into extensive use are several. The oil may be heated without discoloration. It can be treated so as to remove the tendency to "flat," and then produces varnishes with a fine gloss. It has the property of drying hard, but tough, and when used with rosin will produce better results than when mixed with linseed oil. Its use has made it possible to produce a number of good varnishes at a very low cost.

The best grade of China wood oil is thicker than linseed oil, with the specific gravity of 0.994 at 15° C. and flashing point at 280° C. When applied to a flat surface the drying appears to take place throughout the entire body of the oil at one time, instead of from the top down, as is the case with many other oils. When heated to about 260° C. with pure manganese borate the oil, if pure, is in no way discolored, and even displays a tendency to become lighter.

A most peculiar property of this oil is exhibited by the treatment. If 100 pints of the oil are heated to about 270° C. with 8 pints of white manganese borate until the scum begins to rise on the top and then mixed with as much as 700 parts of benzine and allowed to stand so as to be slightly accessible to the air for a few days, the mixture will be found to consist of a thick water-white liquid, having much the appearance of gelatin. If allowed to remain longer it will be converted into a white translucent solid. The same action takes place, but more slowly, if less borate is used. It seems more than probable that in the near future this oil will obtain a greater commercial importance than it holds at present and should form a profitable article of export to the firms of Hankow who are interested in native products.

[The total American imports of nut oils from the Chinese Empire in the fiscal year 1907 amounted to 1,938,356 gallons, worth $800,550, and from Hongkong 261,872 gallons, worth $135,646.—B. of M.]

TOBACCO.

CULTURE AND MARKETS.

BELGIUM.

HOME-GROWN AND FOREIGN TOBACCO TRADE.

The following information concerning the tobacco trade of Belgium is furnished by Consul-General Ethelbert Watts, of Brussels:

Between 5,000 and 6,700 acres of tobacco are cultivated in Belgium, chiefly in East and West Flanders and Hainaut. The number of plants raised in 1905, 1906, and 1907 was 162,784,100, 147,659,636, and 143,518,662, respectively, and the yield was 23,533,120, 20,927,359, and 19,476,206 pounds, respectively. The average cost of production is estimated at from $314 to $320 per hectare (2.471 acres), and the average yield 5,500 to 6,600 pounds per hectare.

Sales generally take place in December and January for middle-sized leaves, and in February and March for large leaves. The industry receives no aid from the Government. There is an excise tax of 15 francs ($2.90) per 220 pounds on all tobacco except that which is raised for the personal use of the planter, which is free from tax. On all tobacco exported the tax is refunded. There are about 616 tobacco factories in the Kingdom, employing from 9,700 to 9,800 persons.

IMPORTS FOR THREE YEARS.

The following statement shows the imports into Belgium of tobacco and tobacco manufactures from the principal countries in 1905, 1906, and 1907 (entered for consumption):

Whence imported.	1905.	1906.	1907.
UNMANUFACTURED, STEMMED.	*Pounds.*	*Pounds.*	*Pounds.*
United States	223,192	192,636	152,990
Philippines	59,785	101,374	111,338
Netherlands	68,378	99,134	101,503
All other countries	52,224	55,496	42,768
Total	403,579	448,639	408,599
ALL OTHER UNMANUFACTURED.			
United States	10,315,848	8,079,192	6,096,874
Netherlands	6,996,938	7,411,167	7,881,646
Dutch Indies	452,727	1,033,294	1,337,211
Bremen	1,314,454	1,184,480	994,987
Germany	442,209	518,066	558,476
Hamburg	471,079	517,561	443,626
Philippines	100,302	228,633	445,744
Austria-Hungary	244,266	199,518	310,478
Russia	10,463	209,121	305,131
Turkey	539,097	434,702	264,517
England	143,887	241,501	252,644
All other countries	661,358	595,996	798,659
Total	21,691,628	20,653,221	19,678,988

Whence imported.	1905.	1906.	1907.
CIGARS AND CIGARETTES.	*Pounds.*	*Pounds.*	*Pounds.*
United States	20,037	18,570	12,222
France	42,009	41,402	58,340
Netherlands	25,874	29,247	27,621
Germany	28,215	30,978	27,172
England	9,535	10,340	17,461
Egypt	13,682	18,262	12,423
Hamburg	6,531	5,973	6,238
Russia	2,317	2,416	3,069
Cuba	1,932	1,692	920
All other countries	4,293	4,756	4,474
Total	154,425	163,636	169,935
CUT, SMOKING, AND SNUFF.			
United States	18,128	24,757	26,737
Algeria	36,120	33,827	59,624
France	30,692	42,277	25,216
Netherlands	26,633	26,635	23,399
England	1,260	1,947	8,598
Germany	3,881	4,184	4,814
Hamburg	19,859	12,302	2,497
All other countries	6,509	3,859	6,054
Total	143,082	149,788	156,939

The tobacco which is replacing the American product in Belgium is Java and Hungarian, chiefly.

EXPORTS.

The exports of unmanufactured tobacco, other than stemmed, amounted to 114,292 pounds in 1907, exported to Germany and the Netherlands chiefly.

The exports of cigars and cigarettes during the years 1905, 1906, and 1907 were as follows:

Countries to which exported.	1905.	1906.	1907.
	Pounds.	*Pounds.*	*Pounds.*
England	72,094	63,965	77,381
Germany	31,132	29,594	38,379
Argentina	13,884	20,042	26,633
Portugal	9,937	12,019	20,913
France	18,526	19,518	19,835
China	31,385	25,511	13,504
Denmark	9,678	13,582	12,991
Netherlands	5,124	10,699	12,597
Australia	9,506	10,663	10,259
Turkey	3,716	9,852	9,711
Kongo Free State	3,214	5,542	8,122
Norway	5,669	5,883	6,461
Egypt	5,896	4,774	6,021
Switzerland	14,064	5,865	5,874
Chile	1,758	3,421	4,534
All other countries	38,188	39,929	30,196
Total	273,771	280,859	303,411

The exports of cut and smoking tobacco in 1907 amounted to 17,341 pounds, which went to the Kongo Free State, France, Germany, Netherlands, etc.

DUTIES AND PRICES.

The following are the duties on tobaccos imported into Belgium: Unmanufactured: Stemmed, $14.47 per 220 pounds; all other than stemmed, $10.61 per 220 pounds. Cigars and cigarettes, $115.80 per 220 pounds; other manufactures, including smoking and cut tobacco and snuff, $23.16 per 220 pounds. All foreign unmanufactured tobaccos are also subjected to an excise duty of $2.89 per 220 pounds.

The following are the average prices of the principal tobaccos in bond, per 220 pounds: Java, $11.58; Hungarian, $12.54; Santo Domingo, $12.54; Turkish, $13.31; Argentine, $14.47; Brazilian, $16.40; American tobacco, for cigars, $36.37 to $40.50; Belgian tobacco, $14.47 to $21.23.

The usual terms of payment for American tobacco are at sixty days, and for the other tobaccos, cash on delivery.

STATUS OF AMERICAN LEAF.

DECREASE IN THE CONSUMPTION DUE TO HIGH PRICES.

Consul-General Henry W. Diederich, of Antwerp, furnishes the following information concerning the decrease in the consumption of American tobacco in Belgium and the causes thereof:

In 1906 the United States was the largest shipper of tobacco to Belgium, but in 1907 the Dutch were the largest shippers thereto. This was caused by the high price of American tobacco, which has injured the product in the Belgian market to a very great degree.

Smoking tobacco is a popular commodity in Belgium. It retails at 10 centimes per 50 grams, which is somewhat less than 1 cent per ounce. Owing to the duty on leaf tobacco, the Belgian manufacturer can not work tobacco that costs him from 8 to 10 cents in the United States. The immediate consequence of the high prices in the United States has therefore been that Belgian manufacturers look to the home-grown tobacco, which they mix with low grades of imported kinds. In this way they produce a manufactured article that makes a good appearance, is very cheap, and to which smokers and chewers have become well accustomed.

LOSS OF AMERICAN TRADE.

There was a time when the United States also supplied the greater part of tobacco used for manufacturing purposes in Belgium. Now it is being used less and less, and for certain kinds of manufactured tobacco it has been discarded entirely. At the present time, for instance, not a single hogshead of "spinners" is imported for consumption in Belgium, all of the spun tobacco being made from the domestic leaf. Less than ten years ago, little or no home-grown tobacco was used for that purpose. Belgians have now become accustomed to the change, and there seems no chance that Belgian tobacco spinners will again revert to American tobacco. Those who are familiar with the tobacco trade here claim that American planters are themselves to blame for this. They lose sight of the fact that the trade wants not only sound, but cheap goods, and that by driving prices too high they merely invite competition in all the tobacco markets.

Tobacco merchants say that the growers of American burley, by forcing prices too high, compel the manufacturers to seek for cheaper grades, and thus give other countries an opportunity to produce tobacco at more favorable prices. It is true the trade is used to burley tobacco, which is popular with consumers, but the planters must not forget that manufacturers, by gradually blending with other tobaccos or by forcing the sale of other grades, may reduce the consumption of American burley and thus decrease also the demand for this article. Europe was at one time a very great consumer of

burleys, but since the prices were forced up, their consumption has gradually and greatly diminished.

The law of April 18, 1896, granting exemption from the revenue to farmers planting a limited quantity for their own use, has been a further check to foreign tobacco. It is estimated that 6,000 tons of native-grown tobacco thus annually escape revenue taxation. These 6,000 tons of tobacco are manufactured and sold in Belgium in direct competition with the product of those manufacturers who pay revenue and license. It can thus be readily seen what an effect this condition of things must have upon the importation of American tobaccos.

RUSSIA.

CULTIVATION AND CONSUMPTION OF TOBACCO IN THE EMPIRE.

The following information concerning the tobacco industry of the Russian Empire is supplied by Vice-Consul-General William Dawson, jr., of St. Petersburg:

Tobacco has been successfully cultivated in the southern districts of Russia for a long period, and a leaf of excellent quality is obtained. In 1903 there were about 175,000 acres in tobacco, yielding approximately 100,000 tons. The cultivation is limited to southern Russia, the Caucasus, and Turkestan, the following provinces producing nine-tenths of the total output: Chernigov, Kuban, Poltava, Tambov, Kutais, Taurida, Bessarabia, Samar, and Voronesh. The raising of tobacco is not encouraged by the Russian Government except in the measure that farming of every kind is fostered by the ministry of agriculture.

IMPORTS AND EXPORTS—PRICES AND DUTY.

It is impossible to determine just what are the exports and imports of leaf tobacco, as custom-house statistics generally group tobacco, cigars, and cigarettes under one head. Imports and exports for the last six years have been as follows, according to customs grouping:

Year.	Imports of tobacco, cigars, and cigarettes.		Exports of cigarettes and tobacco.	
	Pounds.	Value.	Pounds.	Value.
1902	1,584,000	$1,289,800	9,596,000	$680,800
1903	1,404,000	1,158,200	12,636,000	960,000
1904	1,188,000	1,070,700	12,816,000	921,300
1905	1,224,000	1,049,600	16,308,000	868,800
1906	1,368,000	1,102,600	18,972,000	1,329,700
1907	1,152,000	969,300	14,472,000	888,400

During 1907, 294,000,000 cigarettes were sent abroad, representing a value of $838,935.

Custom-house statistics offer no information as to the countries with which the tobacco trade is carried on, although it is understood that practically all of the leaf tobacco imported comes from Turkey. It appears that practically no American leaf tobacco is consumed in Russia, although cigars are, of course, imported. Manufacturers maintain that the American plant gives a coarser leaf than does the native, and attribute to that fact the unpopularity of American tobacco in Russia.

Most of the tobacco consumed in Russia is in the form of cigarettes, *which are either* purchased ready made or put together by the smoker.

Pipe smokers, of whom there are comparatively few, usually smoke the same sort of tobacco sold for the manufacture of cigarettes. This is a light, finely shredded article, with an agreeable, although not very strong, flavor. Cigars are little used, and in most cases the Cuban is preferred to the Russian make, which has less taste. The chewing of tobacco is almost exclusively confined to sailors. Except in the case of the coarsest grades, Russian tobacco is very carefully prepared, only the choicest leaves are used, and all extraneous matter, such as sticks and bits of paper, is carefully excluded. The Government levies an excise duty of 30 per cent of the price of sale on all tobacco, cigarettes, cigars, etc., manufactured in Russia. It is estimated that the revenue drawn from this source during the present year will amount to $26,555,460, indicating a total consumption of nearly $90,000,00.

The price of the Russian leaf, as it is delivered to the manufacturer, varies from $5 to $25 per pood (36 pounds), according to the quality and the abundance of the crop. Foreign leaf tobacco imported into Russia pays a duty of $17.84 per pood. No pronounced effort is being made to increase the exports of Russian tobacco.

RUSSIAN TOBACCO INDUSTRY.

A local journal of recent date gives the following statistics of the tobacco industry of Russia:

> Tobacco raising, and especially the cultivation of higher grades, has hardly attained a developed state, and Russia is obliged to import a certain amount of superior tobacco to used in mixtures. About 1,260,000 pounds, worth approximately $1,030,000, are imported every year (in 1905, 1,360,800 pounds worth $1,096,950). Russia produces annually 216,000,000 pounds of tobacco (in 1906 the yield was only 161,460,000 pounds). Of the total crop, about 144,000,000 pounds are so-called mahorka (tobacco of an inferior quality). Russian factories consume approximately 54,000,000 pounds of native and from 1,188,000 to 1,260,000 pounds of foreign leaf. The products of this industry, especially those of inferior quality, find a fair market abroad. The value of foreign leaf imported is about 65 cents per pound, whereas native tobacco sent abroad is worth only about a tenth of that sum.
>
> The production of cigarettes, particularly of cigarettes of second quality, is on the increase. In all, 12 billions of cigarettes are made every year, of which 0 billions are of second quality. About 370,000,000 are exported and the balance consumed in Russia.

Certain discrepancies are to be noted in the foregoing extract. In the first place, the value of 65 cents per pound, quoted for foreign leaf imported, hardly concords with the statement that about 1,260,000 pounds, worth $1,030,000, are annually brought in, which would indicate the value of imported tobacco to be about 80 cents per pound. As regards the quality of the Russian leaf, a considerable difference of opinion seems to prevail between the foregoing article and the dealers whose names are forwarded. [Addresses filed in Bureau of Manufactures.] This may perhaps be explained by the fact that the writer of the newspaper article was comparing the native product to the high-grade Turkish leaf (which seems to be about the only tobacco imported), whereas, from the nature of my questions, the dealers had in view the American article, which is generally conceded to be of a coarser grain. [The vice-consul-general transmitted a printed copy, in French, of a pamphlet issued in 1906 by the department of agriculture relating to the tobacco industry of Russia, which is on file in the Bureau of Manufactures.]

SWITZERLAND.

SWISS CULTIVATION AND IMPORTS AND EXPORTS OF TOBACCO.

The following information concerning the consumption of tobacco in Switzerland and the standing of American versus other tobacco in that market is furnished by Consul-General Silas C. McFarland, of St. Gall:

Owing to altitude, soil, and climate, the attempt to grow tobacco in Switzerland has been largely experimental, confined to a few of the most suitable districts, and not important as affecting the tobacco industry as a whole. About ten years ago original experiments began in the cantons of Waadt, Thurgau, and Valais. Since then, notwithstanding the value of the land for other purposes, there has been some progress, but the best results have produced only a small-leaved plant, suitable for the cheap grades of smoking tobacco in common use, and in no wise affecting cigar manufacture. Switzerland is, and must continue to be, an importer of both raw and manufactured tobacco, the consumption increasing from year to year. The manufacture, conducted chiefly in the cantons of Basel, Aargau, Valais, Waadt, and Zug, and given protection by increasing tariffs against the importation of foreign goods, has steadily grown in importance, but the raw tobacco so utilized is, excepting as above stated, imported.

IMPORTS AND EXPORTS.

Swiss tobacco statistics are not uniform in arrangement, and detailed comparisons are therefore impossible, but imports and exports for the years 1906 and 1907 are herewith given, details of the minor products not being available for the latter year:

Description.	Imports.		Exports.	
	1906.	1907.	1906.	1907.
Leaf and stems	$1,703,504	2,074,804	$4,413	$202
Cigars and cigarettes	382,231	473,772	484,881	562,347
Smoking, chewing, and snuff	63,010	.....	11,606	.....
Extracts and miscellaneous	2,433	.....	168,862	.....
Total	2,151,178	2,548,576	669,762	562,549

The following statement shows the imports of leaf tobacco into Switzerland from the several countries in 1906, the latest year for which statistics are available:

Countries.	Value.	Countries.	Value.
United States	$861,959	Italy	$2,553
Dutch Indies	443,877	Netherlands	4,091
Brazil	177,938	Russia	2,216
Other South American States	15,641	Greece	2,890
Central America	56,779	Philippines	1,837
Mexico	16,308	British India	2,640
Austria-Hungary	43,693	Australasia	257
European Turkey	33,535	All other countries	1,130
Asiatic Turkey	13,105		
Algeria-Tunis	18,576	Total	1,703,504
Germany	4,479		

Swiss import figures as applying to the United States and Cuba *are not* reliable indexes, for the reason that large quantities of American *and Cuban* tobacco arrives in Switzerland through German, *French, and* other ports, and are accredited to countries.

AMERICAN TOBACCO IN SWITZERLAND.

Experts unite in the opinion that each succeeding year will develop an increasing competition with American tobacco, especially in tobaccos from the Dutch colonies of the East, from Brazil and South America generally, Mexico, Turkey, and possibly from the Philippines. This competition would be emphasized by any material increase in the price of American leaf.

While American leaf is largely used both by Swiss manufacturers and those of Germany and surrounding countries, whose finished goods show most prominently in the statistics, cigars made in the United States, excepting Key West, are not in favor, due both to price and flavor. Cuban-made cigars are the standard, and although retailed cheaper than in the United States, are sold only to the high-class trade. Cost also figures against Mexican and Brazilian cigars, although there is an increasing import of both. The average "smoke" in Switzerland is a 10-centime or a 2-cent cigar, manufactured it may be in Switzerland, in Germany or Austria or in Holland or Belgium, but largely of cheap American or Cuban tobacco, mixed with colonial. Owing to the small labor cost of manufacture and ingenious use of materials, a fairly good cigar can be bought for 1 cent, and from that price to 10 cents and upward for the finest Habanas.

ITALY.

AMERICAN THE PRINCIPAL FOREIGN TOBACCO CONSUMED.

The following information concerning the tobacco industry of Italy is furnished by Consul-General Hector de Castro, of Rome:

The tobacco business in Italy is a Government monopoly, and most of the product used in the Government factories is imported—to a very large extent from the United States.

The income of the Italian tobacco monopoly, which in 1897 was about $38,000,000, reached in 1904–5 a total of over $46,000,000, against a total expense of $11,086,000, leaving for that year a profit of $34,814,000 to the Government.

The cultivation of tobacco in Italy is subject to so many rules and regulations that it is not generally carried on. Permission to cultivate tobacco must be obtained from the Government, and the cultivation is under the control of the excise office. The tobacco so grown must be either sold to the Government, at an appraised price or exported within three years.

The tobacco produced in Italy was, in 1904, 5,798 tons, valued at $785,000, and in 1905, 6,739 tons, valued at $963,256.

Italy is not yet and will not for years, if at all, be in condition to produce the tobaccos required for the monopoly, and must depend upon the United States for the larger part of its supplies entering into the manufacture of its most popular brands of cigars. Even though the price of American tobaccos may increase, it could not materially affect the revenue of this monopoly, there being no competition to meet.

IMPORTS AND PRICES.

During the year 1905–6 the Government imported 17,069.53 tons of tobacco, valued at $4,210,000, of which 14,681.50 tons, valued at $3,390,000, were imported from the United States, 1,415.24 tons, val-

ued at $623,000, from the Levant, and the balance, 972.79 tons, valued at $197,000, from all other countries.

The tobacco imported from the United States was composed as follaws: Kentucky leaf for cigars, 11,539 tons, and Kentucky lugs, 730 tons; Virginia leaf for cigars, 2,055 tons, and Virginia bright, 242 tons; Maryland, 115.50 tons; total, 14,681.50 tons.

The Government paid an average of $143 per ton for leaf grown in Italy, while the average cost of American tobacco was as follows, per ton: Kentucky leaf, $216 in 1904–5 and $227 in 1905–6; Virginia leaf, $240 in 1904–5 and $292 in 1905–6.

The acquisitions of tobaccos for the Italian monopoly are made in the United States directly by the Government agents stationed at New York. The monopoly exports an especially cheap and strong cigar called "Toscano," made wholly out of Kentucky leaf, the exports of which amounted in 1904 to 267 tons, valued at $354,000, and in 1905 to 409 tons, valued at $557,000. Four-fifths of these exports go to the Argentine Republic.

FRANCE.

THE AMERICAN PRODUCT MORE THAN ONE-HALF THE TOTAL IMPORTS.

In furnishing the following information concerning American tobacco in France, Consul Alphonse Gaulin, of Havre, does not think that increased prices of the product would materially affect the imports into France:

The imports of leaf tobacco into France generally exceed the domestic production, and the United States furnishes more than half of these imports.

The inquiry as to whether an increase of from 20 to 30 per cent in the price of American tobacco would bring about a rapid increase in the substitution of tobacco grown in other countries may safely be answered in the negative. The quantity of tobacco purchased in the United States varies somewhat with the prices ruling in the American market, and large stocks are constituted when these prices are relatively low; but on the whole the quantity consumed has been constantly increasing. It is probable that even an increase of 50 per cent would not materially affect the imports of American tobacco into France.

In this connection the following statement, showing the average prices paid by the French Government for various grades of tobacco per 100 kilos (220.46 pounds), may throw some light on the question:

Description.	1898.	1901.	1903.	1904.	1905.	1906.
Kentucky	$22.91	$23.39	$20.60	$16.83	$15.36	$17.48
Maryland	25.49	24.00	32.96	20.36	19.37	20.09
Ohio	21.59	22.16	23.43	21.86	19.05	18.98
Virginia	11.11	14.46	16.17	13.61	14.27	15.56
Brazilian (ordinary)	56.66	34.25	21.12	21.41	21.26	23.67
Hungarian	.....	17.27	15.97	16.26	15.98	16.02

The prices paid for Habana, Java, Sumatra, and Levant tobacco were, of course, much higher, and need not be considered here for the

purpose of this report. Abnormal prices would undoubtedly stimulate competition and reduce the consumption of American tobacco, but it can not be said that it would be an easy matter to find satisfactory substitutes.

The only foreign products which compete at all with American tobacco (leaving out of consideration the higher priced tobaccos which are used for another class of goods) are the Brazilian and Hungarian tobaccos. Brazilian tobacco is already much more expensive than the American article, and while the Hungarian tobacco is somewhat cheaper it could not, by itself, give entire satisfaction.

COMPETITION FROM FRENCH TOBACCO.

As to French tobacco, it can be produced sufficiently to supply the needs of the country, but its quality is not quite what the consumers require. It contains too large a percentage of nicotine and must be blended with milder products. This fact is fully recognized by the Government, which limits the planting on French soil to four-fifths of the probable annual consumption. The quality may be considerably improved in time, but in view of the results already obtained it is doubtful whether any tobacco rivaling the American product will ever be grown in this country.

On the other hand, it is claimed that Algeria may become a serious competitor, and French officials have pointed out that successful experiments have been made in that colony with American seeds, such as the Carolina yellow, yellow prior, and with South American varieties. The officials contend that a too high level of prices in the United States would certainly induce Algerian planters to further exertions and experiments along those lines, and they are convinced that, as a result, a large proportion of imports would eventually be dispensed with. But whether this contention is well founded or not it is clear that the danger, if any, lies in the distant future.

It may be added that the education of the popular taste to new mixtures would probably take a long term of years. This is especially true in a country like France, where, owing to the State monopoly, the smokers have become habituated to a few brands which have not varied to any perceptible extent for years. The State has found it more profitable to limit the number of brands offered to the consumers, but it has thereby correspondingly increased the difficulty it would experience if it attempted to introduce new mixtures among its millions of customers.

GERMANY.

AMERICAN TOBACCO POPULAR AT HAMBURG.

Consul-General Hugh Pitcairn furnishes the following information concerning the imports of tobacco at Hamburg:

For many years Germany, particularly through Hamburg, has been a large importer of tobacco from the United States, such as is designated Virginia, Ohio, Maryland, burley, seed leaf, etc. These tobaccos are very popular here and there is always a large demand for them.

From 1897 to 1907 the imports of American tobacco have gradually increased. Although seed leaf tobacco has somewhat decreased

in its imports since 1904, the decline is merely due to the advance in the prices of this article in the course of the last few years.

While Germany is producing tobacco, it can not be said that the Government is encouraging its production with a view of using the domestic article in substitution of American tobacco, and the industry is not receiving any governmental aid. Of German tobacco there is scarcely any exported to foreign countries, so that it can be said that the official statistics of exports of tobacco from Hamburg are actually figures representing reexported shipments.

There is, so far, no other tobacco substituted here for the American product, and the latter will always remain popular and in demand as long as the prices range within a reasonable limit.

BRITISH INDIA.

IMPORTS OF RAW AND MANUFACTURED TOBACCOS.

In reporting that in 1907–1908 India imported 1,224,818 pounds of unmanufactured tobacco, which was valued at $212,036, an increase of $13,330 over the previous year, Consul-General William H. Michael, of Calcutta, gives the following further tobacco trade details:

The imports of cigars amounted to 117,554 pounds, valued at $145,397. A limited amount of tobacco, raised in Virginia, and a few Key West cigars were imported from the United States, and some tobacco and cigars were imported from Cuba. The importation of cigarettes is increasing, notwithstanding a number of cigarette factories have been started in India during the last two years. The imports of cigarettes in 1907–1908 amounted to 3,634,192 pounds, valued at $2,039,920, against 2,912,341 pounds in 1906–1907, valued at $1,532,454. The Government report does not give the country of origin. It is generally understood, however, that the bulk of cigarette imports come from the United States, which are cheap, attractive, of good "bouquet," and nicely put up. Egypt comes next, but her cheaper class of cigarettes are not to be compared, in point of attractiveness, to the American article.

India exhibited at the exposition held in Calcutta last year a great variety of home-made cigarettes, but the best and highest priced shown were inferior to the cheapest cigarettes imported from the United States. Indian manufacturers of cigarettes are improving their machinery and "style" and will no doubt in time be able to make a presentable cigarette. Europeans living in India, however, seldom use native-made cigarettes.

SUGAR.

CROPS AND BY-PRODUCTS.

CHINA.

INCREASING CONSUMPTION OF SWEETS—TRADE CHANGES.

In stating that one of the principal articles of native import into the North China provinces is sugar, Vice-Consul Ernest Vollmer writes from Tsingtau:

Although among the average native consumption of this article may be regarded as a luxury, it is nevertheless a food product which more and more people are getting to use and which is growing indispensable to an ever-increasing part of the population.

All of the sugar now in use is cane, coming from the southern provinces of the Empire, with Swatow as the leading source of supply for Shantung. Unrefined brown sugar is still far in the lead, but the cleaner and better refined white product also shows a steady gain. Refineries are located at Hongkong and Shanghai, while the Japanese draw a considerable part of the business to their country. They take the raw sugar to their refineries in Japan, and after purifying again find China to be their best customer. In this way they secure profits from the transportation to and from Japan, for processing the sugar, and naturally also take a profit on the article itself. It is probable that several small refineries will soon be erected in Swatow by natives, who control the bulk of the trade.

An idea of the present size of the traffic may be had from customs statistics. The following have been the importations from Tsingtau alone:

Sugar.	1906.	1907.
	Hundredweight.	*Hundredweight.*
Brown	110,561	155,635
Candy	12,061	18,600
Refined	15,691	18,438
White	36,371	56,659

Importations for the first quarter of the present year are reported to again show a marked increase.

THE BEET INDUSTRY IN MANCHURIA.

While cane sugar alone is used here, strong competition from beet sugar may be looked for in a few years. The Chinese want sweetness at the lowest possible price, not caring whether it is cane or beet sugar. The following article recently appeared in one of the German papers of China:

Construction work on the first Manchurian sugar factory has recently been started by a Polish company near the station of Ashitsche, in the Harbin region. Extensive experiments with beets showed that the soil was adapted to

growing unusually heavy crops, while the percentage of saccharine was exceptionally large. A second factory is being started at the junction of the Japanese and Russian railways at Kwangchentzu by a rich Chinese general, while the Chinese capitalist Ti Fon Tai is planning a third. The technical adviser of General Lu Chsun is a Frenchman, while the farming is under the direction of a Russian. The new industry may look forward to rapid development, as it is favored by climatic conditions, cheap labor, and an unlimited market.

The article closes with a comment on the fact that the German sugar industry may soon have to face serious competition from a new quarter, despite the fact that the first market to be gained would be one which up to the present had belonged to Japan, and advises manufacturers of German sugar machinery to keep their eyes on Manchuria and try to secure eventual contracts for factory equipment.

DENMARK.

CURTAILED YIELD OF THE BEET PRODUCT.

Consul-General Frank R. Mowrer, of Copenhagen, gives the following facts in regard to the beet-sugar industry of Denmark:

The production of beet sugar in Denmark for the season 1907–8 amounted to about 110,250,000 pounds, including the first and second product, as compared with 144,427,500 pounds in 1906–7.

Sugar beets were grown in 37,518 acres in 1907 and in 38,216 acres in 1906. The yield of sugar beets per 1.3 acres in 1905 was 40,352 pounds; in 1906, 36,713 pounds, and in 1907, 31,092 pounds. In 1906 38,216 acres produced 1,053,273,375 pounds of beets, and in 1907 37,518 acres produced 890,026,200 pounds.

The beet-sugar industry in Denmark is carried on by two large companies. The De Danske Sukkerfabrikker, with head offices at No. 18 Slotsholmsgade, Copenhagen, owns and operates 6 factories, viz, one in Stege, on the island of Møen; one each at Maribo and Nakskov and the Højbygaard Sukkerfabrik, on the island of Lolland, and one each at Assens and Odense, on the island of Fyen. The other company is the Sukkerfabrikken Nykjøbing, at Nykjøbing Falster, which has one factory on the island of Falster.

The import duties on beet sugar, as stated in the new customs tariff, which goes into effect January 1, 1909, are: Sugar, pulverized, in plates and tops, which polarizes above 98 per cent, 10 øre per kilo, equal to $0.0268 per 2.2 pounds; sugar, pulverized, which polarizes above 86 per cent, but not above 98 per cent, 6.5 øre per kilo, equal to $0.0174 per 2.2 pounds; for refining 5.9 øre per kilo, equal to $0.0158 per 2.2 pounds; other pulverized sugar, which polarizes at 86 per cent and less, 4 øre per kilo, equal to $0.0107 per 2.2 pounds.

GREECE.

FACTORY OWNERS RAISE THEIR OWN SUPPLY OF BEETS.

Consul-General George Horton, writing from Athens, gives the following account of the obstacles encountered in the beet-sugar industry in Greece:

The beet-sugar industry in Greece is controlled by the brothers George and Solon Christaki Zographos, whose headquarters are at *Lazarina,* Thessaly, where their factories are also located. About

1,000 acres are cultivated, but this area keeps the factory running only about two months out of the year. Herein lies one of the chief obstacles to the manufacture of beet sugar in Greece. The area of cultivation can be increased only by turning small crofters out of their holdings, for it is difficult to induce the peasants to try any new crop or to cultivate it according to new methods. All the beets now obtainable are raised by the factory owners. The land is prepared as for turnips, and the seed sown in drills at the end of March or mid-April, and the crop is gathered in July. The cost per long ton of the beets ranges from $10.90 to $14.50, delivered at the factory. The beet land is a loose, loamy, open soil. Irrigation is depended on, the spaces between the drills being flooded three or four times during the season.

The machinery of the works was installed by a French firm and has a capacity of 20 tons of sugar in twenty-four hours. The quality of the sugar is poorer than that of the imported article, and sells somewhat lower. Sugar retails in Greece at 11 cents per pound. The duty is about 5 cents per pound. No sugar is exported.

The principal by-products are the pulp, which after being squeezed is used to feed cattle, and the molasses, which, mixed with chopped straw, is used for the same purpose. The coal used costs about $11 per ton, and the limestone for making carbonic acid gas 75 cents to $1.10 per cubic meter (cubic meter=35.314 cubic feet).

ARGENTINA.

HEAVY IMPORTATIONS AND CONTINUED HIGH PRICES.

Consul-General Alban G. Snyder, of Buenos Aires, quotes Argentine statistics, which show that in the first three months of 1907, 15,100 boxes and 1,170 sacks and casks of sugar were imported, while during the same period of this year 42,268 boxes and 177,987 sacks and casks were imported and 30,000 more casks were expected at the end of April. The Argentine Review of the Commercial Defense League, in commenting upon this, states that one would naturally infer from such a noticeable increase in the importation of this article that the price would fall, yet, on the contrary, it continues to rise and bids fair to reach such a point as to place sugar within the reach of only the rich.

EGYPT.

THE CANE CROP GRADUALLY DECREASING IN AMOUNT.

Supplementing his report, published last month, on the Egyptian sugar trade, Consul-General L. M. Iddings, of Cairo, writes:

The sugar-cane crop in 1906 was about 700,000 tons; 500,000 in 1907; while for 1908 not more than 400,000 tons is expected. The company, by good prices and loans to cultivators, is trying to encourage the cultivation of the cane. The great mistake made, it appears, by this company in 1905 was in not buying lands on which to raise cane, as did the Daira Sanieh. Actually all the company took over was the factory, without means of supply. It was not foreseen that cultivators would turn from sugar to cotton, as they have done.

WORLD'S SUGAR INDUSTRY.

CONVENTION OF BRUSSELS—CROP AND PRICE FLUCTUATIONS.

Consul-General Henry W. Diederich, of Antwerp, makes the following review of the sugar trade of the world, the extent to which Belgium participates, and the acreage which Europe has devoted to sugar beets for this year's crop:

An event of great interest to the future of the sugar industry occurred in 1907, viz, the renewal of the Convention of Brussels for a new period of five years and the conditional adhesion of Russia to the new agreement.

The Convention first took effect on September 1, 1903, and is to remain in force until August 31, 1908. It was to be renewed after that time from year to year, if one of the contracting parties did not renounce it before September 1, 1907. The British Government manifested the intention not to adhere to this renewal unless it was to be exempted from the obligation of penalizing bounty sugar. At first it seemed as if this decision would jeopardize the existence of the Convention. However, under the pressure of the interested governments, an agreement was signed on August 22, 1907, prolonging the international union for a further period of five years and conceding to the United Kingdom the right to import bounty sugar without the obligation to impose countervailing duties in addition to the regular import duties. However, this act had to be ratified by the parliaments of the different governments interested, and in addition Germany demanded as a condition that Russia agree to the Convention.

THE RUSSIAN AGREEMENT.

This result was also reached at the end of the year, thanks to a compromise authorizing Russia to maintain her interior legislation and her own system of indirect premiums on sugar in return for her consent to limit her exportation of sugar to a definite quantity. On December 19, 1907, a second additional agreement was signed in Brussels, assuring the adhesion of Russia to the Convention and granting to that country its quota of exportations, the limits which the exportations during the respective seasons may not exceed being fixed as follows: Three hundred thousand tons for 1907–8 and 1908–9 together and 200,000 tons for each succeeding season up to and including 1912–13. However, the total figure for authorized exportations during the six years (beginning September 1, 1908) must not exceed 1,000,000 tons.

The right of exportation thus provided for and limited comprises all exports excepting those to Finland, to Persia (by the Caspian Sea or over the frontier), and to the other Asiatic countries directly bordering on Russia by the frontier. Only Turkey was put in this class, because, while it borders on Russia, it is on the same footing as most other countries. These two additional agreements have been ratified by the different countries.

RANGE OF PRICES.

During 1907 fluctuations in prices kept within moderate limits. In the spring prices rose a little under the influence of the scarcity

of raw sugar on the principal European markets, where it serves as a basis of transactions for future deliveries. This scarcity was caused by the heavy shipments made to the United States in October–December, 1906, and later by large purchases made by German refiners, in view of an eventual compromise concerning which the negotiations proved fruitless.

The sowing of beet-root seed was about the same as that of the preceding year, which was fortunate, as the crop of the season 1906–7 had been very large. In 1907, however, the weather conditions for the development of the beets were very unfavorable during the entire summer. At the beginning of September the crop seemed to be backward, and both an agricultural and industrial deficit was expected. Under this apprehension the prices quoted on September 6 were the highest reached during the year, viz, $4.95 and $4.78 for October–December.

AMOUNT OF DEFICIT—WORLD PRODUCTION.

Later came a period of fine weather, during which the beet root made great progress, which resulted in the crops being scarcely less abundant than those of 1905 and 1906. Prices fell rapidly, as the results of the harvest and of the manufacture created the impression that the deficit of the production in Europe would only reach from 100,000 to 150,000 tons. The world's production was as follows:

	1907–8.	1906–7.	1905–6.
European beet sugar:	*Tons.*	*Tons.*	*Tons.*
Germany	2,132,000	2,239,000	2,418,000
Austria-Hungary	1,440,000	1,344,000	1,510,000
France	725,000	756,000	1,090,000
Belgium	235,000	283,000	329,000
Netherlands	175,000	181,000	207,000
Russia	1,410,000	1,440,000	968,000
Other countries	435,000	467,000	410,000
Total for Europe	6,552,000	6,710,000	6,932,000
United States beet sugar	410,000	433,000	284,000
Cane sugar	7,203,000	7,361,000	6,742,000
Total	14,165,000	14,504,000	13,958,000

The deficit of the universal production is thus figured at 340,000 tons. However, it must be borne in mind that in the 7,203,000 tons given as the production of sugar cane (figures given by Willet & Gray), the Cuban crop is estimated at 1,200,000 tons, as against 1,428,000 tons in 1906–7. [The last Cuban crop amounted to about 900,000 tons.—B. of M.] But, by reason of the drought which prevailed in Cuba during the first months of the year and which was very injurious to the cane, the deficit seems to have been much higher than estimated by the statisticians, and, according to private opinions, it should be estimated at from 400,000 to 500,000 tons. This brought about a better state of affairs, and the year closed with prices at $4.68.

BELGIAN STATISTICS—FUTURE CROP PROSPECTS.

The price of spot Belgian sugar, exportation, 86 to 92 degrees, during the year 1907 varied between $4.20 and $4.87. The follow-

ing table shows the quantities of sugar consumed in Belgium during the last two seasons:

Classifications.	1906–7.	1905–6.
	Tons.	*Tons.*
Sugar subject to internal-revenue tax of 20 francs ($3.86)	73,474	72,804
Sugar subject to customs duty of 15 francs ($2.90)	3,267	3,179
Sugar for the manufacture of jams, etc	3,656	3,480
Sugar for the manufacture of sweetened vegetables	32	27
Sugar for the manufacture of condensed milk	46	98
Denatured sugar for cattle	235	176
Total	80,710	79,764

The consumption of sugar in Belgium subject to the revenue tax of 20 francs ($3.86) comprises 1,916 tons of raw sugar; 22,164 tons of crystallized sugar, and 49,394 tons of refined sugar.

The Belgian exportations of raw beet sugar in 1907 amounted to 101,169 tons, against 124,978 tons in 1906; 94,230 tons in 1905, and 190,800 tons in 1904; the record crop of the past decade was 306,336 tons in 1900. Last year's sugar exports from Belgium were lessened, both from a smaller production and the absence of orders from the United States.

As to the future sugar beet crop, it has been recently ascertained that the acreage sown to beets has been reduced about 3 per cent on the average, as the following table will show:

	Acres.	Per cent decrease (—) or increase (+).		Acres.	Per cent decrease (—) or increase (+).
Germany	1,068,111	−3.6	Sweden	79,140	+ 5.8
Austria-Hungary	816,088	−1.8	Denmark	37,050	.....
France	504,868	−3.6	Italy	108,680	+12.8
Holland	119,671	−5.5	Spain	74,100	−24.4
Belgium	123,549	−5.4			

No one can foretell how these beets now growing in the fields of Europe will turn out in the campaign of 1908–9.

FOODSTUFFS.

FLOUR AND WHEAT MARKETS.

BRAZIL.

PRESENT COMPETITIVE POSITION OF THE AMERICAN PRODUCT.

Consul-General George E. Anderson, of Rio de Janeiro, advises that the contest of American millers to secure a renewal of their old-time trade in flour in Brazil, which was all but lost up to 1907, met with considerable success in that year as compared with the year before and with the market in Brazil in general. He reviews the trade as follows:

The imports of flour from all countries during the first quarter of the current calendar year as compared with the same period in 1907, according to figures furnished by the commercial statistics bureau of the Brazilian Government, have been as follows:

Country.	1907.	1908.
	Pounds.	*Pounds.*
Argentina	68,466,779	57,411,816
United States	15,937,530	12,860,591
Austria-Hungary	3,325,223	3,077,439
Other countries	1,453,670	3,041,810
All countries	89,183,202	76,391,656

The total imports of flour for the quarter ending March 31, 1908, therefore, were about 14.3 per cent less than they were for the same period of 1907. The imports from Argentina fell off 16.2 per cent, those from the United States 19.3 per cent, those from Austria-Hungary 7.4 per cent, while the imports from other countries—Uruguay for all practical purposes—increased 109.2 per cent. The increase of imports of flour from Uruguay in 1907 over 1906 was nearly 700 per cent. The milling industry of that country, therefore, is coming to such development that its influence in all of South America's markets is likely to be material.

MARKET AFFECTED BY DECREASED IMPORTS.

The flour situation in Brazil has been complicated greatly by an immense falling off in the imports of flour from all countries and of wheat from Argentina in the first three months of 1908 as compared with the same quarter in 1907. What the cause of this notable change may be does not yet appear, although it is probably to be found in both decreased consumption due to depressed commercial and industrial conditions and in excessive imports during the latter portion of 1907. The record for 1907 was in some respects a satisfactory one for American millers. The imports of flour into Brazil increased over the previous year by 16,307 metric tons

(metric ton=2,204.6 pounds), and of this increase 5,017 belonged to the United States, 4,097 to Argentina, 1,699 to Austria-Hungary, and 5,594 to other countries. The minister of finance in his annual report says:

The Argentine flours had an increase in 1907 of 3.3 per cent, the American of 20.4 per cent, the Austrian of 26.8 per cent, and other countries of 684.4 per cent. Notwithstanding such small percentage of increase in Argentine flours, 74.2 per cent of the flour imported in 1907 was from Argentina as against scarcely 17.3 per cent from the United States, 4.8 per cent from Austria-Hungary, and 3.7 per cent from other countries.

From Ceara north to Amazonas American flours dominate the market. From Rio Grande do Norte to Alagoas Argentine flours have the advantage, though strongly opposed by American flours. From that point south the Argentine flours have almost a monopoly of the markets.

RECEIPTS AT VARIOUS PORTS.

The fact that American flours have been able to get a new foothold in only the northern ports of the country indicates how keen the competition for the trade has become. As indicating not only the comparative trade, but also the possibilities of the respective markets, the following table of detailed imports, by ports and countries, given in kilos of 2.2 pounds by the minister of finance in the report referred to for 1907, is of value:

Port.	Argentina.	United States.	Austria.	Others.	Total.
	Kilos.	*Kilos.*	*Kilos.*	*Kilos.*	*Kilos.*
Manaos	.....	3,428,539	11,685	8,338	3,448,562
Para	708,396	9,139,198	5,640	180	9,853,414
Maranhao	.....	1,843,303	110,257	.....	1,953,560
Parnahyba	.....	11,570	92,616	17,994	122,180
Fortaleza	218,750	3,683,330	4,375	3,936	3,910,391
Natal	437,500	89,000	.....	.....	526,500
Cabedello	2,507,125	378,530	217,875	9,916	3,113,446
Recife	14,770,038	5,074,279	4,584,412	55,164	24,483,893
Maceio	2,012,500	1,054,748	966,875	.....	4,034,123
Aracaju	52,500	13,336	91,876	.....	157,712
Bahia	8,429,757	377,804	1,768,975	48,768	10,625,304
Victoria	.....	189,600	.....	.....	189,600
Rio de Janeiro	20,203,983	1,933,616	161,960	285,182	22,584,741
Santos	37,901,100	2,143,902	17,500	3,806,975	43,869,477
Parana	7,379,014	.....	.....	95,452	7,474,466
Santa Catharina	5,090,080	.....	.....	556,656	5,646,736
Rio Grande do Sul	25,370,796	181,940	.....	1,387,970	26,940,706
Matto Grosso	1,297,875	.....	.....	24,310	1,322,185
Total	126,379,414	29,542,695	8,034,046	6,300,841	170,256,996
In 1906	122,282,483	24,526,155	6,334,679	802,690	158,946,007
In 1905	108,577,803	20,000,484	6,741,582	5,144,546	140,464,415

During 1907 there was a considerable increase in the production of flour in Brazil from Argentine wheat, although the proportion of the so-called "national" product was not quite so great as in the year previous. The amount of flour produced in 1907 in Brazil was 172,797 metric tons, as compared with 162,147 metric tons in 1906, an increase of 6.5 per cent, while the consumption in 1907 was 343,050 metric tons, as compared with 316,093 metric tons in 1906, or an increase of 8.5 per cent. The imports in 1907 were 170,253 metric tons, compared with 153,946 in 1906, or an increase of 10.6 per cent. Discussing these figures, the minister says:

In 1906 importation furnished 48.7 per cent of the total consumption and the national industry 51.3 per cent. In 1907 the percentage of importation reached 49.6 per cent, with the result that the percentage of the national production went down to 50.4 per cent.

The Argentine Republic furnished 74.2 per cent of the total amount of flour imported into Brazil and also almost exclusively (99.6 per cent) the wheat which served as raw material for the national mills. Of these two articles alone we bought of that country in 1907 the following amounts:

Article.	Cost in Argentina.	Freight and expenses.	Cost in Brazil.
Wheat	$7,313,814	$789,609	$8,103,423
Flour	6,252,849	521,045	6,773,894
Total	13,566,663	1,310,654	14,877,317

In this particular Argentina does not appear to have many reasons for complaining of Brazil.

BRAZILIAN MILLING OPERATIONS.

The prosperity of the Brazilian national mills grinding Argentine wheat continues, although the comparative falling off in the percentage of their output indicates that American flour has been able to hold its own and gain a little in the northern ports of the country, where most of the change in comparative business of the Brazilian mills took place.

Freight rates in Brazil are high, and in this respect the United States has the advantage of the Brazilian mills, or rather the former does not suffer as much disadvantage as might at first appear. However, the basic tariff rate of 10 reis per kilo (0.39 of one cent per 2.2 pounds) on wheat and 25 reis per kilo on flour (0.96 of one cent per 2.2 pounds) gives the Brazilian millers all the possible advantage they could wish. Flour from the United States is admitted at a reduction of 20 per cent of the duty. At the rate of 70 per cent flour out of wheat the proportional duty on wheat as compared with the present rate on flour would be a basic rate of 17.5 reis on the wheat, or the basic rate on flour should be 14.3 reis.

Upon the basic rates now obtaining—from which the actual duty is figured by adding the proportion payable in gold and other charges—it is very difficult for manufacturers outside of Brazil to keep in the Brazilian market at all, for there is not only high protection of Brazilian flour but a practical bounty upon the importation of wheat rather than flour. In the competition for the flour trade of Brazil the United States suffers a disadvantage in the fact that Argentina is nearer the more populous portions of the country. More than three-fourths of the population of Brazil is in the country south of Bahia, into which the United States at present sends practically no flour, and where, in any event, it competes with Argentina at a disadvantage.

GERMANY.

LIMITED IMPORTS OF AMERICAN PREPARATIONS.

Consul John E. Kehl, replying to a St. Louis inquiry, states that the direct import of American flour to Stettin amounted to only 36 tons during 1907 and to 64 tons during 1906. Local bakers use mostly Austrian flour for their finer wares. The bulk of the American flour used in Stettin comes from Hamburg. The consul sends the names of the wholesale dealers in flour at Stettin, which may be obtained from the Bureau of Manufactures.

SOUTH AFRICA.

CONSIDERABLE DECLINE IN AMERICAN SALES.

Writing from Durban, Consul Edwin S. Cunningham says that within the past two years there has been a very decided decline in the amount of American exports of flour to South Africa, as he shows by the following official statistics:

In 1906 the imports of flour into South Africa were of a value of $3,364,718, of which amount 27.5 per cent, or $928,304, came from the United States. In the same year the imports into Natal alone were valued at $1,501,933, of which 32.2 per cent, or $484,995, came from the United States.

In 1907 the imports of flour into British South Africa were 149,850,072 pounds, of a value of $3,016,111, to which sum the chief contributing countries were Australia and New Zealand, 59.7 per cent; Canada, 28.8 per cent; United States, 10 per cent, and Argentine Republic, 1.1 per cent.

LOCAL MILLS—HIGH PRICES OF AMERICAN FLOUR.

The statistics relative to Natal's imports in 1907 are not yet available, but I believe that the falling off in this colony is not so great as that in the importation of the country as a whole. One reason for this belief is the fact that in Cape Colony several mills have been erected and have begun to import wheat for the purpose of milling thereby materially affecting the demand for imported flour. In Natal the amount of wheat converted locally into flour is comparatively small, and consequently the amount of flour that is imported would remain more nearly stationary than in the neighboring colony.

The great decrease in the percentage of American flour consumed may be accounted for by the higher price which the American article commands. At the present time the average price of Australian flour in the local market is $3.28 per bag, while American flour is quoted at $3.83. Because of this difference in price bakers and other consumers use a mixture of two-thirds Australian and one-third American. It is claimed that this admixture of one-third American or "hard" flour supplies the lack of gluten which characterizes Australian and other "soft" flours.

PREFERENTIAL RATE ON BRITISH FLOUR.

Furthermore, the South African customs union allows a rebate of 3 pence (6 cents) per 100 pounds on flour from British colonies, and this naturally places a handicap upon American trade with this country. I have been informed that a great deal of American flour is exported to South Africa by steamers sailing from Canadian ports, and it is possible that this fact is partly responsible for the apparent decline in the share of the United States in the flour trade of this country. It is certain that the demand for a fair amount of American or Canadian flour will continue, inasmuch as its higher quality makes it indispensable, but there does not seem to be much likelihood of a large increase in the demand. [The names of some of the principal flour importers and merchants in Durban are listed at the Bureau of Manufactures.]

BRAZILIAN PURE-FOOD LAWS.

REQUIREMENTS FOR THE ADMISSION OF FOREIGN ALIMENTARY GOODS.

Consul-General George E. Anderson, of Rio de Janeiro, calls attention to the fact that the increasing importations into Brazil of a widely differentiated line of special food products, instead of the few staple food products which have been imported into the country through practically all of its history, is giving more and more importance to the pure-food legislation of the country, which he treats as follows:

Such legislation is of particular importance to the United States since the proportion of food products in the exports of the United States to Brazil is large, and also in view of the fact that under the system of export generally in vogue in the United States as regards Brazil direct cooperation between the manufacturer of a food product and the exporter is seldom established. Foods are manufactured and sold to an exporter without any knowledge on the part of the manufacturer as to what country will receive them. The result has been that in many cases the foods did not meet with all the requirements of Brazilian laws and have been refused admittance or at least subjected to delays both expensive in a general way and injurious to the goods. Proper knowledge on the part of the American manufacturer and exporter of the conditions of food import into Brazil will save considerable trouble and avoid material loss. Brazilian laws governing the sale and importation of foods are strictly enforced and penalties for violating them are severe.

The food laws, which apply as well to drugs, medicines, and all articles intended for human consumption, are somewhat complicated, being scattered over a number of years and included in a number of executive decrees which can be had only in pamphlet form separately. With a view of avoiding some of the difficulties heretofore met with on the part of American exporters the bureau of analyses of the Brazilian Government has prepared an epitome or outline of the several laws in question for this consulate-general which is as follows:

PURE FOOD REQUIREMENTS.

Article 40 of law No. 428, of December 10, 1896, prescribes as follows:

Wines, lard, and all other food products condemned by the national laboratory shall be destroyed and the importers thereof fined Rs. 500$000 ($150). There shall be condemned as injurious to health: Wines and all food products which contain boric acid or salicylic acid; alcohol of poor quality, the free mineral acids, sulphuric, sulphurous, azotic, chlorohydric, sulphites, alum, fluorates, and alkaline fluosilicates, saccharine, compounds of strontium, lead, zinc, tin, arsenic, antimony, sulphate of potassium—in the proportion of two grams (gram=15.4324 grains) per liter (liquid liter=1.0567 quarts) of wine; in beer, substitutes for hops, such as absinthe, quassin amara, colchicum, picrotorine, colocynth, vomic-nut, picric acid, aloes, as well as any essentials prepared with ethereal oils, coloring matter derived from coal tar and of a lead base, mercury, copper, arsenic antimony, baryte, or any other substances which science has recognized as injurious to health.

The importation of artificial wines is prohibited under all circumstances, even though they do not contain substances injurious to health, the first part

of this section being applicable in their case if within a time set by the inspector of customs they be not reexported.

Law No. 489, of December 15, 1897, prescribes as follows:

Article 49, after the words "liter of wine" is added "except in cases of wine whose proportion of alcohol exceeds 20 per cent, when the proportion of sulphate of potassium allowable is raised to four grams per liter."

Article 11 of law No. 559, of December 31, 1898, sets forth the following:

There shall be condemned as noxious to public health cognacs, whiskies, rums, gins, and other imported alcoholic beverages, natural or imitated, which contain more than three grams (globular measure) of poisonous impurities—aldehydes, ethereal oils, furfurol, higher alcohols (alcooes superiors), acetic acid, etc., to 1,000 grams of alcohol of 100 per cent grade, or one and a half grams of the same to 1,000 grams of alcohol 50 per cent pure.

Budget law No. 1452, of December 30, 1905, condemns "all alcoholic liquors which contain absinthe or any other noxious essentials."

EXAMPLES OF FOOD CONDEMNATIONS.

In conformity with the laws cited, there have been condemned by the National Laboratory of Analyses various lots of wines, beers, vermuths, cognacs, aguardientes, whiskies, gaseous limades, various preserves, sweets, butter, essential solutions, etc.

In the wines condemned the elements most frequently encountered are salicylic acid, sulphate of potassium in amount greater than 2 grams per liter, and at times in amount greater than 4 grams per liter in wines whose per cent of alcohol exceeded 20, coal-tar coloring matter, sulphites, and free sulphurous acid.

In beers the most commonly occurring noxious substance was salicylic acid.

Various vermuths were condemned as containing absinthe and others were condemned as containing more than 2 grams of sulphate of potassium per liter, and various whiskies, cognacs, and aguardientes were condemned as containing more than 50 grams of impurities per liter of alcohol 50 per cent pure.

In the gaseous limades the condemnations were due to the presence of salicylic acid and of artificial essentials manufactured with ethereal oils.

In the case of condemned meats, and particularly hams, there was found boric acid, and in some preserves of vegetables salicylic acid was found.

Condemned sweets and fruit preserves were found to contain salicylic acid and coloring matter derived from coal tar.

Some butter was withheld from consumption owing to the presence of boric acid therein. Finally, of the essential solutions analyzed various ones were condemned as containing essentials made from ethereal oils.

EXTENT OF LENIENCY—COST OF ANALYSES.

These are the products most frequently condemned according to the laws which are carried out by the National Laboratory of Analyses. Only in the case of sulphate of potassium in wines and liquors is there any leniency on the part of the laws. In the case of other noxious substances the quantity of the substance contained in food or drink products does not affect the treatment of the same.

Article 1 of law No. 1837, of December 31, 1907, modifies law No. 452, and orders that all alcoholic drinks containing more than traces

of absinthe or any other noxious essential shall be condemned. Article 8 of this law says:

The importation of wines, in which the quantity of sulphurous anhydride does not exceed 200 milligrams per liter, free or combined, is allowable, the Government being authorized to raise this limit to 350 milligrams.

A later law (No. 6801 of February 27, 1908), raised the first limit of 200 milligrams (milligram = 1-1000 of a gram) to 350 milligrams of anhydride of sulphur.

In the course of administering this legislation the Brazilian Government requires an analysis of every consignment of food products imported in Brazil, as well as of all such products offered for sale within the country. Such analyses are made without regard to brand, mark, or the known quality of goods, and American exporters must be prepared to conform to such requirements with every shipment. The usual fee for each such analysis is Rs. 20$000 ($6.67), but the fee may be increased under extraordinary circumstances.

COFFEE INDUSTRY.

BRAZIL.

WORLD'S VISIBLE SUPPLY AND THE COUNTRIES OF PRODUCTION.

Minister Irving B. Dudley, of Petropolis, transmits a copy of a report on the past, present, and future of coffee, which appeared in a Rio de Janeiro publication, from which the following statistics are taken:

Let us see what the elements are that will go to form crops during the next quadrennium, 1909–1912, and the average annual crop that may be looked for.

Since 1902 no more coffee trees have been planted in São Paulo, and as it takes four to six years for coffee to bear, the only possible element of production are the trees already in existence, all or almost all of which are in bearing at present. The last trees planted will be at their best and in full bearing in the course of the current quadrennium, whilst the influence of replanting exhausted areas, as well as of the intensive cultivation lately followed, will also reach its climax during this period. Under such circumstances it seems reasonable to suppose that the annual average production during the next four years, 1909–1912, will be the same as for the previous quadrennium, plus 5 per cent increase from freshly-bearing trees, or, in all, about 10,000,000 bags per annum.

Twenty years ago consumption was between 9,000,000 and 10,000,000 bags; ten years later it had risen to 13,000,000, and this year is generally estimated at 17,250,000 bags.

At this rate, at the close of the current quadrennium in 1912, consumption should reach 19,000,000 bags, especially if the official propaganda should be as effective as is expected.

The visible supply of the world on June 30, 1908, will be about 14,000,000 bags. Next year's production is estimated by the well-informed Dutch brokers as follows:

Brazil: Santos, 8,250,000; Rio, 2,750,000; Victoria, 300,000; Bahia, 200,000; total, Brazil, 11,500,000. Other countries: Central America, 1,500,000; Colombia and Venezuela, 950,000; Haiti, 350,000; other West Indies, 50,000; East Indies and Java, 697,000; total other countries than Brazil, 3,697,000; grand total, 15,197,000 bags.

Visible supply on June 30, 1908, 14,000,000 bags. Total visible supply on June 30, 1908, and estimated production for the year ended June 30, 1909, 29,197,000 bags, less the consumption for the fiscal year 1909—17,197,000 bags—which leaves the visible supply, at the close of the year 1909, 12,000,000 bags.

By 1915 consumption, at the rate of increase of 400,000 bags per annum, the average of the last twenty years, should reach 20,000,000 bags per annum, whereas production, in the best of hypothesis, will not exceed 17,000,000, and the visible supply will have disappeared entirely.

MOROCCO.

IMPORTS COME VIA EUROPE—AMERICANS HAVE NATURAL ADVANTAGE.

Vice-Consul-General George E. Holt, of Tangier, contributes the following on the trade and consumption of coffee in Morocco, and makes suggestions for securing portion of the trade for the United States:

In 1906 the total amount of coffee consumed in Tangier and vicinity was 2,391 bags of 132 and 230 pounds each, valued at $35,865. Exact figures for 1907 are not yet obtainable, but they will certainly exceed those of last year. The coffee consumed in all Morocco will reach probably $200,000 per annum.

The greater part of this coffee comes from South America, but passes through the hands of the middleman of France, Germany, England, Spain, Belgium, Austria—anyone except the United States jobbers who might be expected to handle it, because they are the logical connecting link between South America and Gibraltar. In the export of coffee to Tangier, and the same holds true of the other Moroccan ports, the various nations rank as follows: France, Germany, Great Britain, Austria, Belgium, Spain, Italy. France has about 60 per cent of the total trade, and is followed by Germany with about 10 per cent.

The samples of coffee accompanying this report [and obtainable from the Bureau of Manufactures] are representative of the various qualities sold here from the highest to the lowest grade, unroasted. They are per pound as follows: Mocha, 25 cents; Caracolillo, 22½ cents; Porto Rico, 20 cents; Santos, 17½ cents; and Rio, 15 cents.

There would seem to be a field here not only for the more expensive grades of American coffee, but more especially for the cheaper grades, such as the package coffee which retails in the States at 25 cents for 3 pounds and has the advantage of being roasted and ground, and which is really superior to most of the coffee sold here at 20 cents or 25 cents per pound.

HANKOW BRICK TEA.

IMPORTANT COMPRESSING INDUSTRY IN A CHINESE CITY.

Vice-Consul-General Albert W. Pontius, of Hankow, makes the following report on the brick-tea industry of that Chinese port:

In the Russian concession there are two brick-tea factories which with the other two in the British concession are undoubtedly the most important industrial institutions of the port. Brick tea is made from ordinary tea dust. It is first steamed in a cotton-cloth bag and then placed in a wooden mold, much the same as is used for making ordinary clay bricks, but stronger and not so deep. The mold is placed under a powerful press and the pressure is maintained until the requisite consistency is reached. The bricks are then removed and wrapped up in common white paper. They are exported in bamboo baskets holding 1 to 1½ piculs (1 picul = 133⅓ pounds). The Mongolians before drinking boil the tea so as to get the most out of it. This boiling does not injure the taste, as there is no flavor to lose. Tablets are made of the very fine kinds of tea dust.

About 2½ ounces of dust in a dry state without steaming are poured into a steam mold on a cylinder and put under a pressure of 2 tons.

When the tablets are removed from the mold they are wrapped in tinfoil, then in paper, and finally packed in tin-lined boxes. The whole of this export goes to Russia. These factories, which are fitted with costly modern machinery, employ many thousands of natives. An idea of the importance of this branch of the tea trade may be gained by the total value of brick and tablet tea which passed through the customs during the last ten years, amounting to more than $18,000,000.

ITALIAN MACARONI.

HEAVY GROWTH IN SHIPMENTS TO THE UNITED STATES.

Consul Nathaniel B. Stewart, of Castellamare di Stabia, submits the following report as of interest to American growers of durum wheat and manufacturers of macaroni:

Notwithstanding the existing commercial depression in the United States and the consequent return therefrom of a very large number of Italian consumers of the product to their native land the exports of macaroni from this consulate during the five months ending May 31, 1908, compiled from consular invoices, show a marked increase in quantity and value over those for the same months of 1907. The total exported from January 1 to May 31, 1907, amounted to $986,760, while that to May 31, 1908, amounted to $1,082,812, a gain of $96,052, or nearly 9 per cent.

Exports of macaroni have always been proportionately larger during the fall and winter months than during the spring and summer. The total value, therefore, of the product exported from Castellamare di Stabia to the United States during 1907, viz, $2,683,951.02, will very probably be greatly exceeded during 1908. [The American imports of macaroni from all Italy in 1907 amounted to 91,819,301 pounds, valued at $3,652,702, an increase over 1906 of 10,000,000 pounds and over 1905 of 34,000,000 pounds.—B. of M.]

BRITISH POULTRY SUPPLY.

HOME INTEREST AROUSED—EGG AND FOWL IMPORTS.

Consul Joseph G. Stephens, of Plymouth, writes as follows in regard to the poultry and egg supply of Great Britain:

Recognizing the great need for improvement both in the breed and management of poultry, it has been suggested by influential bodies that the College Poultry Farm, Theale, be formed into a national poultry institute and experimental station. In view of the growing importance of the industry and the certain increase of small holdings, the president of the Board of Agriculture has promised the scheme all the support in his power.

The British demand for poultry and eggs exceeds the supply, and great quantities of both are imported from America and the Continent, and especially from Denmark. Over 2,000 cases of poultry from the United States are sold in Plymouth yearly.

To gain a still better market in the United Kingdom eggs should be larger, there should be a better supply in the winter months, and there should be no ground for complaint as to packing. The poultry and sundry products imported from the United States are shipped

mainly by the large packing houses, who have their agents and offices in Plymouth and all of the large cities in the United Kingdom. To individuals and smaller shippers it is suggested that they communicate with the leading merchants of the principal towns, and especially with the several industrial cooperative societies.

CANADA'S BACON TRADE.

PROPORTIONATE SUPPLY IN THE MARKETS OF GREAT BRITAIN.

Consul A. G. Seyfert writes from Owen Sound that a correspondent from London, England, to the Montreal Trade Bulletin uses some interesting facts in his letter on the bacon trade from Canada, upon which the consul comments:

For some years Canada has scientifically advertised all over England this article until people began to ask for it. The correspondent says:

> People in Canada who argue about the selling price of hogs and what the packers can afford to pay to the farmers for their hogs have apparently been arguing from false premises. They have assumed that the English market is dependent on Canada for bacon, and that the price of hogs in Canada fixes the price of Canadian bacon in England.

He gives the following figures to show that England never depended on Canada for her supplies of bacon, the first three months of this year and the corresponding period in 1904 being used for comparison: England imported from the United States during January, February, and March, 1904, 1,504,200 hogs; 407,500 from Denmark, and 258,738 from Canada. For the first three months of this year the importation from the United States was 1,728,000; Denmark, 510,600; Canada, 166,560, or nearly 7 per cent of all the bacon imported.

FISHERIES.

CATCHES AND MARKETS.

NORWAY.

FINAL RETURNS SHOW REMARKABLY GOOD SEASON'S CATCH OF COD.

Consul-General Henry Bordewich, of Christiania, advises that the Finmarken cod fisheries have now terminated, and as the returns were unusually good, the total catch has been materially augmented, according to the following figures:

The total of the season's catch for the whole Kingdom has been swelled to 47,900,000 fish; of this some 17,600,000 have been air dried, round, unsalted stockfish, and 27,800,000 split, salted, and dried common codfish.

There has been manufactured 58,700 barrels medicinal cod-liver oil of capacity 26.41705 gallons per barrel, and 25,124 barrels mechanical oil. The ruling prices f. o. b. Bergen, are: Stockfish from $18.50 to $22.78 per 100 kilos (220.46 pounds) according to quality; codfish, $11.25 to $12.86 per 100 kilos; medicinal cod-liver oil, $12.86 per tin-lined barrel holding 30 gallons; mechanical oil, $8.50 per common barrel; salted roes, $5 to $10 per barrel.

The result of the spring herring fisheries are 406,500 crans (barrels). Salted herring are in the Trondhjem market quoted at from $1.88 to $3.75 per common barrel.

THE SARDINE TRADE.

COMBINATION CAUSED BY THE LOW PRICES AND COMPETITION.

Consul Felix S. S. Johnson, of Bergen, reports that a meeting of the Norwegian Sardine Packers was recently held at Stavanger to regulate prices, output, and the number of establishments, with the following results:

It was agreed that no fish should be packed during the months of February, March, and April, a violation of which should be paid by a fine of 5,000 crowns (crown=26.8 cents); that a uniform price should be maintained for the purchase of fish, and that the present manufacturers should in no way establish factories in any other place or places. Stavanger, the first place in Norway where sardines were packed, to-day has 15 establishments. Some years ago a factory was established at Bergen, and now the city has 5; several factories were also put up at Haugesund.

During the past season complaint has been general of overproduction, low prices, and excessive number of factories, which, with the financial crisis in the United States, has made profits small and has obliged packers to form a union or trust for their future welfare.

While during the past year the export of sardines from France to the United States has decreased, the export of this article from Nor-

way has increased from a few thousand dollars some ten years ago to $600,000 in 1907, and it is a matter of only a few years until the Norwegian output will equal that of any other European country. Large quantities of Norwegian sardines have been sent to France.

Experiments are shortly to be made at Bergen of putting up sardines as they are packed at Bordeaux, instead of smoked. Whether this venture will be a success or not is to be determined.

USE OF COTTON-SEED OIL IN PACKING FISH.

At the recent meeting of the sardine packers of western Norway an effort was made by some manufacturers to exclude the use of cotton-seed oil in putting up fish in cans, but the movement was fruitless. It may be further stated that an effort is being made to have the duty on cotton-seed oil reduced from 6 øre to 4 øre. Cotton-seed oil is now being successfully used in the packing of sardines and, with a reduction in the customs duties, more will be used by packers of fish.

EXPORTS OF SARDINES FOR THREE YEARS.

The exports of sardines from Norway to the United States for the past three years are furnished by Special Agent A. G. Perkins. The figures were obtained from the records of the American consul-general in Christiania, and include only the declared exports of sardines, though there were several thousand dollars' worth of canned fish, some of which may have been sardines.

From—	1905.	1906.	1907.
Bergen	$5,861.91	$81,878.83	$239,629.07
Stavanger	235,812.75	376,654.60	557,774.96
Total	241,674.66	458,533.43	797,404.03

SCOTLAND.

A RECORD YEAR IN BOTH THE CATCH AND IN ITS VALUE.

Consul Rufus Fleming, of Edinburgh, submits the following report on last year's catch, and the men and fleet employed in the Scottish fisheries:

The total quantity of fish taken by the Scotch in 1907 (exclusive of shellfish), according to an official report, was 9,078,059 hundredweight, of the gross value of $15,425,525. These figures exceed the preceding year's totals by 20 per cent and 6 per cent, respectively, and are in each case the highest ever recorded in the history of Scottish fisheries. Toward the gross catch herring and other net-caught fish contributed 70 per cent, trawled fish 23 per cent, and line fish 7 per cent, as compared with 66, 25, and 9 per cent, respectively, in 1906. The average price obtained was $1.70 per hundredweight, as against $1.90 in 1906 and $1.64 in 1905. The value of shellfish caught was $351,381, a slight decrease as compared with the return for 1906.

The herring catch amounted to 6,313,247 hundredweight, of the value of $8,838,829, exceeding the year 1904, the previous record for quantity, by 880,753 hundredweight, and 1906, the previous record for value, by $813,178. The quantity of cured herring exported

in 1907 was 1,881,835 barrels, or 339,071 barrels more than in 1906, which had hitherto been the highest record. The greater part of the herring export goes to Germany and Russia. Next in importance to herring is the whitefish, which amounted last year to 2,696,943 hundredweight, of the gross value of $6,485,790.

The number of persons employed in the fisheries and the various industries subsidiary thereto was 94,773, about 2,500 less than in 1906. Of these, 39,228 manned the fishing fleet, comprising 10,365 vessels of an aggregate tonnage of 144,385 tons, and, with their fishing gear and equipment, of the value of $23,640,561. Of this fleet 9,262 were sailing vessels and 1,103 steam propelled. There was a decrease of 468 in sailing vessels and an increase of 284 in steam vessels as compared with 1906.

VALUE OF THE CURED FISH.

LARGE INCREASE SHOWN OVER THAT FOR THE PREVIOUS YEAR.

Consul Maxwell Blake transmits the following extract from the report of the fishery board for Scotland, giving the value of cured fish and the chief fishing grounds:

The value of the fish (other than herring) cured is estimated at $3,905,975, an increase of over $72,998 over the return for 1906. The grand total value of all fish cured reached the record figure of $17,703,293, or $484,369 more than the previous record, which was reached in 1906. The districts contributing most largely to the aggregate were: Aberdeen, $4,864,617; Fraserburg, $2,412,665; Peterhead, $2,110,192; Eyemouth, $860,178, and Wick, $682,507, on the east coast; and Shetland, $3,304,549; Orkney, $400,776; the districts of Stornoway, $685, 057; Barra, $403,331, and Greenock, $213,041, on the west coast.

GERMANY.

HIGH PRICES OF MEAT STIMULATE FISHERIES.

Consul Herman L. Spahr, of Breslau, makes the following report on the increasing use of fish in Germany:

The price of hogs in Breslau at the end of April was 46 to 54 marks ($10.95 to $12.85) per 50 kilos (110.23 pounds) against 40 to 50 marks ($9.52 to $11.90) at the same time last year. The high prices of meat during recent years has brought about a large advance in the consumption of fish in Germany. For the encouragement of the German sea fishery transportation methods had been improved and special markets established throughout the interior, but the demand for sea fish was slow of growth until meat prices soared. Now an increase is visible everywhere, particularly, it is said, in Bavaria and Wurttemberg.

A Breslau newspaper estimates that Germany's consumption of fish is now 18 per cent of the meat consumption. The computation is based on the 1907 catch, which, after deducting imports and exports, amounted to 408,772 tons. The inland fishery is not included in this figure, as there are no available statistics concerning it. The 1907 supply per capita was 6.63 kilos (14.62 pounds). While the meat supply (exclusive of home killings, game, and poultry) was 2,450,000 tons, or 39.8 kilos (87.74 pounds) per capita. The ratio was one to six, but the first quarter of 1908 shows an increase in the sea-fish supply of 14,607 tons (13½ per cent) over the same quarter of last year.

NOVA SCOTIA.

PHENOMENAL CATCHES OF MACKEREL, WITH BIG PROFITS.

A report from Consul-General David F. Wilbur, at Halifax, states that the catch of mackerel in Nova Scotia waters this season is one of immense proportions, and vessels are breaking all previous records. Under date of June 17, he writes:

So prolonged has been the catch so far this season that it puzzles the fishermen to handle it. The supply of barrels being low, fishermen are preparing to pack the mackerel in puncheons, boxes, old boats, or anything else they can find. Other than the shortage of barrels, the only drawback is in the supply of salt, which is running low in many of the ports along the coast. Rush orders are being sent for a sufficient supply. Old fishermen state that never before in their recollection have the mackerel been so numerous as they are at the present time along this coast, and with the fine weather they are reaping a great harvest.

Lunenburg, Nova Scotia, is claiming to be a rival of Gloucester, Mass., as the port handling the most fish in North America. During the week ending June 6 reports are available for 19 vessels of the Lunenburg fishing fleet, which shows that these vessels caught 15,150 quintals, of 112 pounds each, of fish, which were worth at that time $6.50 a quintal, representing a harvest of $98,475, an average for the week for each vessel engaged of about 800 quintals, or $6,000.

The mackerel catch of Guysboro, Nova Scotia, this season has been the largest in the last twenty years. Here it is not uncommon for one man to catch from 1,200 to 1,800 mackerel in his nets, sometimes making as high as $200 a day.

At Riverport, Nova Scotia, the catch is also far above the average. Reports from 14 schooners fishing off the banks show that they have caught 13,300 quintals of 112 pounds each, valued at $56,650, an average of over $4,000 for each vessel.

The mackerel are first rough dressed on the vessel from which they are caught, then sold and landed and put through another process of dressing, being more carefully prepared and put down in salt brine in barrels of 200 pounds each, containing from 120 to 300 mackerel each, according to the size. These sell at wholesale here from $10 to $12 a barrel, and are shipped principally to Boston and New York and the cheaper grades to the West Indies.

ONTARIO.

CANADIAN SHIPMENTS OF WHITEFISH DUE TO AMERICAN HATCHERIES.

Consul H. D. Van Sant, of Kingston, supplies the following information concerning the Canadian supply of whitefish in Lake Ontario:

From April 1 to June 10, 120,000 whitefish were shipped from Kingston to Cape Vincent, N. Y. During the same period in 1907 but 30,000 were shipped from this city to the same port, showing an increase this season of 90,000 shipped to the United States. This is accounted for by the increased output of fry planted in eastern Lake Ontario by the United States fish hatchery at Cape Vincent.

As the natural feeding ground of the whitefish is on the north shore of Lake Ontario, the fry planted in United States waters swim

over to the Canadian side. The old-time Lake Ontario whitefish is becoming exhausted, and the product of the American hatchery, usually Lake Erie fry, which are distinguishable from the Ontario variety, are taking their place in rapidly increasing numbers.

TASMANIAN SHELL NECKLACES.

HOW AN INDUSTRY IS CARRIED ON IN AN AUSTRALIAN ISLAND.

Consul Henry D. Baker, writing from Hobart, gives the following account of the traffic in shell necklaces in that part of Australia:

The invoices of shell necklaces exported from Hobart to the United States for the year 1907 amounted to $3,083. The shells which are used for the stringing of necklaces for this export trade are known locally as the "mariners' shell," of which there is a green and a blue variety of many different sizes, varying from about one-fourth inch to one-half inch long, the width being about half the length and the shape that of a cornucopia. They are found among the seaweed at low tide, around the south and east coasts of Tasmania, and among the Furneaux group of islands in Bass Strait to the northeast of Tasmania.

The shells, to have any value, must not be taken dead, but while the fish within them is alive, otherwise they have no luster. After being taken from the seaweed they are exposed to the sunlight and atmosphere for several months, and the fish eaten out of them by flies and ants; after which they are immersed for further cleansing in hydrochloric acid after which treatment their appearance is quite lustrous, and shows many of the prismatic colors. Some of them are strung in this natural state, while others are dyed pink, light or dark blue, green, and yellow. After stringing they sell at retail in Hobart for about 60 cents a necklace, or about $4.80 a dozen necklaces, and in still larger quantities at about $4.50 a dozen. The sale to tourists from the mainland of Australia during the summer season is very large.

SOURCES OF SUPPLY—RETURN PURCHASES.

The best shells are found in the vicinity of D'Entrecasteaux Channel. Those found on the east coast of Tasmania are about the same in appearance, but are usually more easily broken than the shells of the south coast of Tasmania. Those of the Furneaux group are apparently of good quality, and when properly cleansed make very attractive necklaces. In these islands the work of gathering and stringing the shells is performed mostly by half-caste women and children. On a recent visit to this group I found a number of attractive varieties of shell necklaces which are very little known to the Hobart trade. They were made up from shells known locally as "penguins," "toothies," "cats' teeth," "rice" shells, "feather" shells, and "painted ladies." The half-caste children at Cape Barren Island were contributing quite a number of these interesting varieties while I was there, to be sold for the benefit of the children's hospital at Launceston, Tasmania.

Hobart firms which export shell necklaces to the United States are also importers to a smaller extent of shell and pebble ornaments from the same American firms which buy the necklaces, pearl shells being the most common article of import. The cities of San Fran-

cisco and Vancouver, British Columbia, furnish for the local tourist trade many bracelets made up from polished Japanese and Chinese pebbles, to which is usually attached a spangle—the heart shape of the island of Tasmania. It is said that these bracelets are the work of Japanese in these two cities.

PRESERVING FISH IN PAPER.

SUCCESSFUL EXPERIMENTS IN PACKING FOR SHIPMENT.

Consular Clerk Milton B. Kirk sends a Paris newspaper note calling attention to some interesting experiments in connection with the carriage of fish recently made by M. Alfred Goldès, president of the fishery section of the Brussels Chamber of Commerce. Soles caught by Ostend boats off the Portuguese coast which were packed in a special vegetable paper and turned out after sixteen days in much better condition, both as regards freshness and flavor, than those packed in ice. This paper was recommended at the Ostend Fishery Congress of 1907 by Herr Sölling, inspector of Danish fisheries. It costs little and takes up but small space.

FIBERS AND FABRICS.

COTTON GROWING.

EGYPT.

PRODUCTION HAS NOT KEPT PACE WITH THE AREA PLANTED.

The report of the Egyptian Cotton Commission, which held sessions in Alexandria on March 31, April 2 and 11, and May 2 and 12, is published in the Alexandria Gazette, from which the following statistics are obtained:

The steady and continuous decadence in the production of cotton the twelve past cotton seasons, divided into four 3-year series, is shown as follows:

Years.	Average yearly area planted.	Average yearly yield.	Average yearly yield per acre.
	Acres.	*Pounds.*	*Pounds.*
1896–1898	1,083,998	583,703,515	538
1899–1901	1,206,778	578,885,336	481
1902–1904	1,324,605	617,988,105	433
1905–1907	1,551,396	634,660,951	410

According to the commission the principal causes to which the diminution in the yield of cotton are due are (1) enfeeblement of the land, (2) rotatory irrigation, (3) drainage, (4) climate, (5) deterioration of the plant, (6) insect pests, (7) lack of fertilizers. The enfeeblement of the soil is largely due to biennial cropping and lack of fertilizers, and a return to triennial cropping and more fertilization are recommended. As to irrigation it is recognized that the system of rotation has been beneficial, but to insure good condition the period should never exceed 18 days—14 days would be better if water were obtainable. Insect pests—the bollworm and the "nadawat el assalieh"—are recognized by the commission as one of the principal causes of the diminution of the yield, and the commission thinks that the biennial croppings favor the multiplication of these insects and other enemies of the cotton plant, and finds therein another reason for returning to the old system of triennial cropping.

The deterioration of the plant, both in the quality of the fiber as well as in the yield, being fully proved, the commission highly praises the Khedivial Agricultural Association for its efforts toward improving the same by selection and hybridization. One experiment would settle the following question: That the suppression of the cultivation of rice on high-lying lands apparently freed from salt in

certain regions, viz, Behera, Gharbieh, and Dakalieh, in consequence of insufficiency of water, has caused the salt of the subsoil to rise and has thus contributed to the diminution of the cotton harvest. Consequently the commission hopes that as regards rotatory irrigation (1) the government will take into consideration as far as possible the points indicated above; (2) that the works for the increase of the summer water supply be hurried on as much as possible, so as to reduce the duration of a rotation to 18 days and to divide the canals into three sections, of which each would have water for 6 days and be without for 12; (3) an experiment be made on a canal to see if it is possible to obtain an economy of water by reducing the periods of dryness so as avoid the great loss of water caused by the fissures; (4) the Khedivial Agricultural Society will impress upon the cultivators the folly of an extravagant use of water after the cessation of rotations; (5) cultivation of rice be authorized on the high lands of the above-cited provinces with a three to four years interval.

GERMAN COLONIES.

THE EMPIRE'S RAW COTTON SUPPLY AND PLANTING EFFORTS.

Consular Agent W. B. Murphy, of Sorau, supplies the following translation of an article which appeared in a local newspaper concerning the cotton supply and cotton industry of Germany, and the cultivation of the fiber in the German colonies:

The demand for cotton is continually increasing. The imports into Germany in 1907 amounted to 476,400 tons (metric), valued at $136,707,200, against 155,900 tons, valued at $42,649,600, in 1882. In our export trade cotton, in a manufactured form, is also a large factor, the exports of cotton goods in 1907 amounting to $116,239,200.

The German cotton industry, according to official authority, is only exceeded by that of the United States and the United Kingdom. The number of factories in 1906 is put at 14,697, in which 875,000 persons (all insured) were employed. The annual wages amounted to $155,890,000. The cotton trade in all its branches probably furnishes livelihood to 1,000,000 workmen and workwomen.

SUPPLY OF THE RAW PRODUCT.

It is to be regretted that in regard to the raw product we have, up to the prsent time, been dependent upon foreign countries, and the question is anxiously asked, Will the production of the raw material keep up with the demand?

The United States furnishes by far the largest supply of cotton. Of the cotton crop of the world for the year 1906, 19,900,000 bales in round numbers, the United States furnished 13,000,000; British India, 3,700,000; Egypt, 1,400,000, and all other cotton-producing countries, 1,800,000 bales. Of the cotton imported by Germany in 1907, 68.1 per cent was from the United States. Should there be a crop failure in the United States, or should the export of the raw material be stopped for political reasons or on account of the growth of the cotton industry in the United States, the consequence for the German industries and for the working people would be disastrous.

COTTON CULTIVATION IN THE GERMAN COLONIES.

Under these conditions it is easily understood why we are using every effort to make ourselves independent of foreign countries. The first practical effort in this direction was made by the Colonial Political-Economical Committee in Berlin, which, by its cotton expedition to Togo in the year 1900, laid the corner stone for all further efforts and opened the [redacted] ltivation of cotton in South Africa. The cultivation of cott[redacted] isfactory advances; the quality of the [redacted]

average, than the American middling; the crop in the years 1905–6 amounted to 857 bales of 250 kilos (551.15 pounds) each, and in the years 1906–7 to about 1,200 bales.

The cultivation of cotton has also been promoted in German East Africa, Kamerun, and Southwest Africa. Nevertheless we are only at the commencement. British Nigeria, the neighbor of Togo, has already an export ten times as great as that of Togo and German East Africa combined, and soon hopes to increase these figures still more. This is to be explained by the fact that Nigeria had a railroad much earlier and twice the length of that of Togo, and this road is now being extended to thrice its former length in order to open up still richer cotton districts.

Behind these efforts stand not only the textile manufacturers of England, but also the textile workmen (Lancashire Textile Trade Union), who have learned from the dearth forty years ago that national cultivation of cotton is for them a question on which their very existence depends.

The German Colonial Political-Economical Committee is not only regularly assisted by the German Government, but receives from the textile manufacturers a subsidy of 10 per cent of the assessments of their trade union for furthering the cultivation of cotton. On account of these subsidies the committee is able to keep the interest in this subject alive, both in our colonies and at home.

We call attention also to the exposition at Berlin in May and June of American and English cotton-picking machines, on which the treatment of German colonial raw cotton is shown. The building of colonial railroads, declared to be necessary, has now been agreed to by Parliament, and some manufacturers have already secured large tracts of cotton land in German East Africa, and further development can be looked forward to with greater confidence. According to expert estimates, after the introduction of appropriate methods, at least 2,500,000 bales of cotton can be produced in our colonies.

BRITISH INDIA.

GOVERNMENT EXPERIMENTS FOR THE IMPROVEMENT OF FIBERS.

The following information relative to the efforts of the Indian government for the improvement of the cotton fiber is furnished by Consul-General William H. Michael, of Calcutta:

The experiments at the government farm in Behar during the last three years with American, Egyptian, and perennial tree cotton are reported to be discouraging, on account of the persistent ravages of the bollworm and other pests. The report says that there are other crops that will pay better than cotton in that part of India.

The Broach cotton grown on the government farm in Dharwar realized $82 per naga and that raised by cultivators $52. At the same time the local Kumpta cotton brought only $38 per naga. Even assuming that the outturn per acre of the two cottons was the same, the higher quality Broach was more profitable to the ryots. But the yield per acre of Broach cotton was higher than that of Kumptas, and a careful analysis shows that the gross profits per acre of Broach are about double those of Kumptas. That is the most important aspect of this question. The ryot will not grow higher grade cotton unless it pays him to do so. The Dharwar experiments prove that it does pay him.

As the agricultural department is preparing to distribute larger quantities of Broach seed next sowing season it may be anticipated that a considerable extension of the area under high-class cotton will be made. Traders in Bombay and Ahmedabad cooperated

effectively with the department in securing the ryots good prices for their cotton. It is believed that the better prices given for cotton from the government farm will have an effect in raising the standard of farming in India.

RESULTS OF HYBRIDIZATION.

An Indian government report says that the best results in the experiments in cotton hybridization to improve the better indigenous varieties which are now being carried out at various centers in the country are officially reported to have been obtained in Bombay, the central provinces, and Madras. In the Bombay presidency, especially, the work has been noticeably successful, practical results having been obtained by producing three crosses of fixed type which are superior to local cotton and suitable for the Surat-Broach tract of the presidency, which has hitherto produced the best cotton exported from India. One of these crosses can, it is believed, be grown over the whole of the Surat-Broach tract, and may contribute largely to the value of the outturn. The other two indigenous crosses, with proper treatment, are expected to improve considerably. Another promising cross is that between Bourbon (tree) cotton and Egyptian, but further trials are required. Hybridization of cotton are also officially reported to be promising in other provinces, but they are not yet sufficiently definite for publication.

LARGE CROP INCREASE PREDICTED, ESPECIALLY OF BETTER FIBER.

In referring to the production of cotton in India, Consul-General Michael notes that a writer in the Indian Trade Journal disagrees with the idea that India can not materially increase her production, and says:

Largely owing to the action of the British Cotton Growing Association in affording facilities, and that of the government of India in starting experimental work in cotton cultivation, an extra million acres were brought under cotton last year; and Professor Dunstan, director of the Imperial Institute, states that already a better description of Indian cotton is being exported to the United Kingdom. The table below shows the exports of cotton by sea from British India to foreign countries during the past five years, but it must be clearly borne in mind that about two-thirds of the cotton grown in India is consumed in this country.

Year.	Hundredweights.	Value.
1903-4	7,931,075	$81,253,821
1904-5	5,657,743	58,115,624
1905-6	7,399,534	71,138,398
1906-7	7,400,839	73,261,536
1907-8	8,562,024	85,675,065

The most promising spot for cotton cultivation in India appears to be Sind, where the Egyptian variety, particularly in the canal area, is replacing the indigenous plant. In that locality the area under cultivation is rapidly increasing, and it is believed that the time is not far distant when that province will produce 100,000 bales of almost the finest cotton in the world, worth at least twice as much as the indigenous variety.

In India, as in other countries, the greatest hindrance to the extension of cotton cultivation is the boll worm, which has in past years done immense damage to the cotton crops of Sind and the Punjab canal colonies. But steps are now being taken by means of "trap crops" and other methods to hold this pest in check, and when this task is accomplished India should be in a position to largely increase her exports and so contribute in a greater measure toward the world's ever-increasing demand for raw cotton.

FRENCH COLONIES.

A SCHOOL FOR COTTON PLANTERS ESTABLISHED IN FRANCE.

Consul A. Gaulin advises that on July 10 the French minister of commerce officially inaugurated in the city of Havre a school which is the first of its kind in France, its main object being to give a practical training to young men seeking employment on colonial cotton plantations. The consul says further:

The school has been annexed to the leading local technical institution, the Ecole Pratique d'Industrie, which has over 350 students, and it is now known as the Ecole d'Industrie Coloniale. It was founded by the Association Cotonnière Coloniale, which will provide part of the funds for its maintenance, and which has already equipped it with modern machinery sufficient to insure adequate instruction in cotton ginning and baling and oil-crushing methods. The ministry of commerce, the Havre Chamber of Commerce, and the municipality have also agreed to grant annual subsidies.

Only graduates of commercial and technical schools will at first be allowed to follow the course of studies, which will cover a period of ten months and will include the following subjects: The methods of cultivating and handling cotton and the principal products grown in the French colonial possessions, the industrial preparation of these products for export, practical geography and topography, the elements of electrical science, colonial history, French administrative colonial legislation, and colonial hygiene.

The establishment of this school indicates clearly that a serious and systematic effort will be made toward the development of cotton culture in the French colonies. At any rate, it is a very interesting experiment and, as its promotors hopefully predict, it may have far-reaching results.

MEXICO.

OUTLOOK FOR CULTIVATION OF TREE COTTON ALONG THE RIO GRANDE.

Consul Clarence A. Miller, of Matamoros, furnishes the following information concerning tree cotton in the Rio Grande district of Mexico:

As in southern Texas, the production of cotton in this district is greatly curtailed by the boll weevil.

During the last few years a few cotton trees have grown up, and their success in this locality may possibly lead to their further introduction and cultivation. Practically no attention was paid to any of these trees, yet all of them seemed to be fairly successful. The most encouraging feature is that the cotton was ready to be picked about June 1. This early maturity is supposed to be the best preventative against the boll weevil. It is said that no weevils were noticed on any of the trees, but this can not be vouched for.

It might be advisable to experiment with the cotton tree on the Lower Rio Grande Valley on the Texas side of the river. It may be possible that the tree would not be affected by the occasional light frosts of that vicinity.

The cotton is a short staple variety, about one-half or three-fourths inch long, but the fiber is strong, and the seeds clean and black.

[Samples of the tree cotton, transmitted by Consul Miller, have been received at the Bureau of Manufactures.]

INTERNATIONAL CONGRESS.

ACTION BY PARIS CONVENTION—AMERICAN BALING.

Mr. J. R. MacColl, who presided over the International Cotton Congress held last year at Atlanta, attended the cotton congress recently held at Paris, and in a conversation with a representative of the London Financial Times is reported as follows in the issue of that journal for July 8:

The Paris congress took an important step in indorsing the buying of cotton on net weight. The purpose is to further the movement for a decent American bale similar to the Egyptian bale; I am glad to say that since spinners and growers have come into closer relations active efforts are being made throughout the Southern States to introduce new methods of compressing and covering cotton. Continually we hear of new types of compresses being invented, and I anticipate that in the next decade there will be abundant evidence afforded that the American bale of the future is to be in keeping with the business enterprise and energy of the American nation.

THE EXPERIMENTAL PLANTATION PROJECT.

It is, in my opinion, unfortunate that an experimental plantation scheme was abandoned by the English spinners. It was a mistake to attempt to form a foreign corporation. The company should be incorporated under American laws, and include prominent American spinners and planters, although the majority of the stock might be owned in Europe. I do not believe that the leaders of the growing associations would have any objection to such a company. They recognize the important advantages that would accrue from looking more closely to the producers and consumers in a common effort to increase the volume and efficiency of cotton growing in America. Our European friends frankly admit that cotton production in new countries is more likely to benefit their grandchildren than themselves or their sons, and if they are for years to be dependent on our Southern States for their raw material, the simple investment necessary to carry on experimental plantation work is as nothing compared to the benefits that may be derived from it. I find widespread difference of opinion with regard to the value of trading in futures on the cotton exchanges. Some of the best and most influential spinners in every country affirm that industry would be much better without it. The conservative and responsible members of the exchanges should, in my opinion, cooperate with the growers and spinners in removing as far as possible the objectionable features of future trading, and thus prevent the increasing protest against the injurious influence upon the industry of so-called gambling and speculation.

ASIATIC SILK TRADE.

BRITISH INDIA.

EXPORTS, IMPORTS, PRODUCTION, AND NATIVE MANUFACTURE.

Consul-General William H. Michael, of Calcutta, furnishes the following information concerning the trade in and production of silk and silk goods in India:

The exports of raw silk from India during the fiscal year ended March 31, 1908, amounted to 1,943,126 pounds, valued at $2,126,009, of which 29,072 pounds, valued at $87,890, went to the United States; 1,297,245 pounds, valued at $1,338,397, to France, and 480,460 pounds, valued at $633,598, to the United Kingdom.

The imports of silk into India during the fiscal year ended March 31, 1907, amounted to 1,420,467 pounds, valued at $1,893,330, a decrease of 225,233 pounds, valued at $479,670, from the imports of 1906, which were abnormally large, owing to a deficiency in the crop of 1905.

Although the mulberry tree is raised in Mysore, the most of the *lk produced in* India is made from the wild silkworms and from

raw silk imported from China and Siam. "Tassar" silk is very popular with a certain class of Indians. It is stiff, harsh to the touch, and golden brown. The natives who do chikon embroidery make some pretty dress patterns of tassar silk, which sell for from $12 to $17 per pattern of four or five breadths. The chief seat of the manufacture is Mehadpore, but a good deal of it is made in Bengal, which is finer in quality. The only dyes used for this silk are from the flowers of the butea frondosa and turmeric; by the latter golden yellow is brought out after the threads are immersed for some time in a solution of ashes.

To show the progress made in the silk industry of India, the following statement, exhibiting the exports of silk and silk manufactures for the fiscal years ended March 31, 1883 and 1907, is given:

Description.	1883.		1907.	
	Quantity.	Value.	Quantity.	Value.
Raw silk.....pounds..	501,576	$1,470,138	1,779,316	$2,288,330
Waste silk goods.....do....	857,857	343,672	1,063,093	277,330
Piece goods.....yards..	2,589,217	839,999	.....	228,660
Mixed goods.....do....	202,847	81,296	.....	.....
Reeled silk.....pounds..	.....	.....	785,764	1,965,330
Cocoons (one-half wild).....	.....	.....	70,591	29,530
Total.....	.....	2,735,105	.....	4,789,180

JAPAN.

SILKWORM HATCHING AND THE SILKWORM INDUSTRY.

Minister T. J. O'Brien, of Tokyo, transmits the following translation, made by Student Interpreter A. A. Williamson, of an article in a local newspaper concerning the silkworm industry of Japan:

At this season (May) the silkworms emerge from the eggs and considerable interest attaches to their number as compared with the hatch of previous years, as some estimate, with regard to the output of silk at the end of the season, may be made therefrom.

Of the 42 fus and refectures mentioned, 33 showed an increase in the production of worms and of mulberry leaves of from 10 per cent to 20 per cent; 9 were below average or the same as last year. Hokkaido suffered from bad weather, which spoiled the hatch somewhat and considerably damaged the mulberry sprouts. Frost and snow caused more or less damage to sprouts in 8 prefectures, and in Yamanashi Prefecture the mulberry fields were so washed out by the floods of last year that not much leaf will be produced this year; yet Fukuoka Prefecture shows an increase of about 25 per cent, and in 7 prefectures the increase amounts to 20 per cent. In addition, the number of families engaged in the industry has been considerably augmented, so that, with the increase in the number of worms and the large yield of mulberry leaves expected, a good silk year is anticipated.

A YEAR OF GREAT ACTIVITY MARRED BY THE AUTUMN SLUMP.

Consul-General Henry B. Miller, of Yokohama, transmits the following article from a local newspaper reviewing the silk trade of Japan for the first eleven months of the year ended June 30, 1908:

One writer on economic subjects denies that the raw silk trade has been as unprofitable as is generally regarded. He points out that the arrival of silk at Yokohama during the eleven months to June last, the opening of the season, aggregated over 190,000 bales, which, added to the stock of old crop silk on the market, brought up the total to 204,000 bales. The total sales during the eleven months amounted to 182,500 bales, showing an increase of over 7,600 bales as compared with the corresponding period of the preceding year. Thus the sales

can not be said to be unsatisfactory, and the greater part of the silk sold realized 1,000 yen per picul ($498 per 133⅓ pounds). No greater activity of the market has ever been seen. Latterly, it is true, the market has become depressed, with heavy congestion of stocks and depreciation in price, but this is due to the depression of the market abroad, while the congestion of stocks is partly to be accounted for by a marked increase in the arrival of stocks at Yokohama. What this writer desires to show, apparently, is that had it not been for the heavy slump of the autumn the year would have been a phenomenal one, but this is scant consolation for dealers and producers who have lost more by the slump than they gained by the previous months of prosperity.

IMPROVING THE MANUFACTURE OF HABUTAE.

Consul-General Miller also reports from Yokohama that the Fuji Gas Cotton Spinning Company is said to have engaged the services of a French weaving expert at a salary of 60,000 francs ($11,580) a year for a period of three years. The motive of this step is to improve the manufacture of habutae (fine Japanese silk), for which staple a great market would exist among the Parsees of India if certain imperfections which now render the Japanese product inferior to the French could be remedied. This company by strenuous exertions is said to have succeeded in securing a strong foothold for its gassed yarns in India, and it now aims at a similar success in the field of habutae.

CHINA.

LARGE INCREASE IN EXPORTS OF NEARLY ALL CLASSES OF FIBER.

Vice-Consul Ernest Vollmer, of Tsingtau, writes as follows concerning the Chinese foreign silk trade for last year:

Customs returns of the silk exportation of China show that the past year has been a good one, at least as far as the quantity is concerned. The present state of the market in north China is, however, not satisfactory. Large stocks of pongees have accumulated at Chefoo and Tsingtau, and even with a price far below any on record for the past few years there seems to be no market for Shantung pongees. The United States in 1907 maintained its place as a large consumer of Chinese silk. Hongkong took, roughly, three and one-half times the amount taken by the United States, and was by far the heaviest buyer; France came second with just twice our purchases; and the United States occupied third place.

STATISTICS OF EXPORTATIONS.

Consul J. C. McNally, of Nanking, furnishes the following statistics relative to the exports of Chinese silk in 1907:

The demands in this line were exceedingly good, and but for the financial crisis in the United States, which caused the collapse of the silk markets on both sides of the Atlantic, the demands would have absorbed the splendid crops of the silk-producing countries. The exports of silk and silk products from China in 1907 increased 25 per cent over those of 1906.

All qualities figured in the increase, except wild raw silk, which fell from 3,407,300 pounds in 1906 to 3,186,150 pounds in 1907. White raw silk increased from 3,628,959 pounds in 1906 to 3,801,515 pounds in 1907; yellow silk increased from 1,584,404 pounds in 1906 to 1,793,685 in 1907, and white filatures from 6,107,939 in 1906 to 5,704,457 in 1907, or within 39,900 pounds of the record year 1902.

Waste silk, with 14,377,605 pounds, was 2,660,000 pounds more than in any other year of the silk history of China.

Silk piece goods and Shantung pongees showed substantial increases of 25 and 56 per cent, respectively.

VEGETABLE FIBERS.

MEXICO.

THE ZAPUPE PLANT, ITS FIBER, AND ITS ADAPTABILITY.

Vice-Consul Russell A. Millwood, of Tampico, furnishes the following information concerning the zapupe plant and its fiber:

It can not be definitely stated just when zapupe was first known in the States of Tamaulipas and Veracruz, but there is every indication that it is indigenous to this section. It has been used by the Indians, who, in a primitive fashion, adapted it to many useful purposes, such as the manufacture of cordage, rope, fish nets, lariats, and yarns for weaving.

The growing of the plant beyond either a wild or experimental stage to any extent was only begun in 1905, when considerable interest was taken in the industry, with the result that, to date, over 5,000 acres have been placed under cultivation in this vicinity, and additional large tracts of land are now being cleared, preparatory to further increasing the present acreage.

DESCRIPTION AND CLASSIFICATION.

It is a filamentous plant, producing a fine white fiber, strong, brilliant, soft, and pliable in texture, and although similar to other fiber plants found throughout Mexico, it is said to be far superior in quality and more rapid in growth, yielding a good return in three years, while the others require from five to seven years.

There are seven kinds of zapupe in this district, but only three kinds are cultivated, viz, the estope, or blue; the tantoyuca, or long leaf; and the tepezintla, or short leaf. The tepezintla is the most popular and most productive. Another variety, the Vincent, has been recently propagated and introduced on the Isla de Juana Ramirez and bids fair to become one of the leading producers. It closely resembles the tepezintla, but matures more rapidly and produces a superior grade of fiber.

PLANTING AND CULTIVATION.

A light, sandy, well-drained soil is most suitable, and, after the initial clearing and plowing, no further preparation of the ground is necessary, as the plants are exceptionally hardy and vigorous and require little care when once properly started.

Planting can be done at any time of the year, but it is desirable to complete the operation either before or after the rainy season (April to October), when the weeds and wild grasses are most in evidence and seriously retard the development of the plants.

Few plants possess the strength and tenacity of the zapupe, and when full development is attained it is most formidable, and will not be molested by stock, cattle, or game of any kind, thus rendering fencing, an expensive operation in this country, unnecessary.

Each year, after maturity and during the life of the mother plant, six or seven sprouts or suckers spring from the root, and these can be

cut and set out between the rows or removed to the propagating inclosure. Another interesting feature is the sprouting of a long stem, 15 to 20 feet in height, which occurs toward the life end of the plant, and which blooms into a large cluster, yielding from 1,000 to 2,500 complete scions, which drop off, and may also be set in a propagating inclosure.

HARVESTING AND PREPARATION FOR MARKET.

The leaves may be harvested at any time of the year, but are usually cut regularly every three months, care being taken to sever them clean to the stem, as it has been found that irregular cutting is frequently the cause of killing the plant. After gathering, the sharp thorn ends are cut off the leaves, which are placed in bundles of 50 and carried to the cleaning shed where they are made ready for shipment. The cleaning is a simple operation, consisting in running the leaves through a machine shredder, which will handle about 20,000 leaves per hour, with the aid of three men. The fiber is then allowed to thoroughly dry in the sun, after which it is made ready for the market.

The uses to which zapupe may be adapted are almost unlimited. From its fiber is manufactured the finest cordage and rope, which will neither mold nor kink, and which is unaffected by climatic conditions of any kind.

By machinery each fiber is divided into 100 parts or threads, unfolding all its brilliancy and softness. It has been used to replace silk, but owing to the small amount produced in the past has not been exported for that purpose, the entire output being consumed in Mexico.

Land suitable to the cultivation of zapupe varies in price from $2 to $20 gold per acre, and at the present time is being largely dealt in by Americans, who are immigrating into Mexico in numbers.

The cost of clearing the ground preparatory to planting averages from $5 to $15 per acre, and the young plants, according to age, vary in price from $3 to $10 per hundred.

From 50 to 55 pounds of fiber are produced from each thousand leaves, thus averaging from 2½ to 3 tons of fiber to the acre, valued at $40 per ton. An annual profit of $150 per acre can be cleared on zapupe, and a ready market found for its sale, both in Mexico and the United States, where samples have been submitted and pronounced most satisfactory.

No shipments of importance have as yet been made from this district, and the possible production has been variously estimated, but conservative figures place the amount that will be ready for export trade within the next year at 5,000 tons. [Samples of zapupe fiber, and the names and addresses of leading zapupe planters, are on file in the Bureau of Manufactures.]

BRITISH INDIA.

SIDA FOR THE MANUFACTURE OF TEXTILES FINER THAN JUTE.

The following information concerning the sida fiber of India is also furnished by Consul-General William H. Michael, of Calcutta:

A sample of sida fiber is transmitted, which was received from the acting director of commercial intelligence for India, with the following letter:

I furnish herewith some samples of sida fiber, cultivated experimentally by the government of Eastern Bengal and Assam, and inquire if any firms in America are willing to assist in creating a market locally for the fiber. It is believed that the fiber can be used in the manufacture of textiles finer than jute.

In looking up the history and possibilities of the sida fiber it is found that it is not new by any means, and that the statement of the acting director's letter as to its qualities is well supported by scientists who have bestowed their attention on the plant, which is widely distributed throughout India.

Doctor Watt, in his report on the flora of British India, says:

It may safely be said that if chemistry can be trusted to indicate the properties of fiber, sida is unquestionably an infinitely superior fiber to jute. Under hydrolysis (for bleaching and cleaning with an alkali) it loses a very much smaller proportion of its weight; is, therefore, less easily disintegrated by the action of water, and is consequently much more durable. Similarly, it loses less under the acid purification, and by nitration obtains a considerably greater weight, while it possesses a much larger percentage of cellulose. A fiber to recommend, it is surely worthy of the time and expenditure necessary to ascertain whether or not all these advantages are financially counterbalanced by a less acreage yield.

From the fact that the fiber does well in Eastern Bengal and Assam it should do equally well in our Gulf States, and in the Philippine Islands, where the climate is much the same. Wherever flax can be grown sida may be grown also, but a semitropical climate is preferable. Major Hannay, who as far back as 1853 experimented with sida, says:

Seed was sown broadcast on May 16, and the crop cut in September. The stems were covered over by grass rubbish to cause fermentation, which took place in four days, and they were afterwards steeped for twelve days. The fiber was then cleaned by the same method as is pursued with jute.

If samples of sida seed can be obtained they will be forwarded to Washington. [The samples of the fiber transmitted by the consul-general are filed in the Bureau of Manufactures.]

COTTON GOODS IN THE EAST.

CHINA.

INTERIOR SOUTHERN CITY PURCHASES LARGE QUANTITIES.

The British consul at Wuchow (180 miles west of Canton) has forwarded the following particulars of the import trade in cotton piece goods at that Chinese port during the year 1907:

There was a decline in the import of cotton piece goods during 1907, owing to lack of facility in financial arrangements and the loss of the native opium trade at Nanning, together with the curtailment of the credits formerly granted to Wuchow merchants by the Hongkong native dealers; nevertheless a steady and nonspeculative business was carried on. Gray shirtings show a falling off, the import for 1907 being given as 72,660 pieces, as compared with 93,069 pieces in 1906. The 8¼-pound grades have decreased the most, their place having undoubtedly been taken by light-weight shirtings. The material, which is unbleached, is used by the Chinese for clothing, and for this purpose it is very often dyed blue with indigo in Wuchow and in the surrounding districts. A considerable decline in the import of gray sheetings is also to be observed. The Hupeh productions are now coming into favor, and these can be laid down at Wuchow more cheaply than either the Manchester or the American cloths. In white shirtings a larger variety of qualities is now being imported, and the trade is not, as in former years, confined to a few extra heavy cloths. The local consumption of gray T-cloths and of fancy goods in 1907 was about up to the average, but, on account of the loss of the native opium trade and of interprovincial financial facilities. there was a large decrease in the quantity

intended for distant interior markets. Though the customs returns show an import of 28,810 pieces of plain dyed shirtings in 1907, no such article comes into the port; this remark applies to foreign-dyed shirtings and not to Hongkong-dyed shirtings, the figures for which are given separately. The proper classification would probably have been under the headings of cotton Italians, cashmerettes—an imitation of cashmere manufactured in Manchester—brocades and cotton lastings, both plain and figured. These are of various qualities, ranging in price from 42 to 81 cents per yard, with a width of 30 to 31 inches, and are very different from the ordinary shirting or calico dyed in indigo and of a width of 36 inches; 25,193 pieces of Hongkong-dyed shirtings are said to have been imported during 1907. In the dyeing of these, pure indigo dye is employed. There was apparently a very great increase in the quantity of Japanese cotton cloth imported, the figures for 1907 having been 43,268 yards, as compared with 7,784 yards in 1906. The cloth is made up in small pieces of 9, 12, or 15 yards of very narrow width. The import of Japanese cotton crape shows a very great decrease. The figures for 1906 were 195,861 yards and the figures for 1907 only 24,921 yards. The figures given for 1906, however, are erroneous, crimps from Manchester and striped twills with raised back from Japan having possibly been included under the heading of Japanese cotton crape. There would seem to be little doubt that this last-named article, chiefly owing to its lack of durability, is rapidly going out of the market.

PERSIA.

INCREASED IMPORTS LAST YEAR.

The British consul at Bunder Abbass, writing on the trade in cotton piece goods at that Persian Gulf port in 1907, states that the depression of 1906 was followed by a brisk demand during the past year. The United Kingdom supplied piece goods of all kinds to the value of $514,953, as against $278,661 in the previous year. India showed a slight decrease, from $120,436 to $120,256. Russian prints of 24 inches wide enjoyed a limited sale at 1 kran (9 cents) per yard, and increased from $15,524 to $28,771. These are mostly colored designs on a red ground, and are used by Persian women of the peasant class for making underclothing. There was a greatly increased demand during 1907 for cotton and jute yarns, the United Kingdom and India jointly showing an increase from $328,114 to $505,123.

SWISS EMBROIDERIES:

LACK OF AMERICAN ORDERS CAUSES CONTINUED DULL TIMES.

From later developments in the Swiss embroidery trade Vice-Consul-General Eugene Nabel, of St. Gall, reports that there is little hope of marked improvement before next spring, adding:

While a year ago the local market was thronged with American and other buyers, who placed large orders and urged immediate shipments, there are few here this season, and limited quantities are being purchased. The committee for limiting production decided unanimously to discontinue the monthly restrictions, anticipating an unusually long quiet period, being convinced that a reduction will continue voluntarily without organization. Some large establishments have discharged many employees, while a number of smaller manufacturers have shut down and have their work done "outside" at less cost. In Lustenau, the center of the Vorarlberg embroidery industry, wages have been reduced about 10 per cent. In that place, as well as in

many adjacent villages, the crisis has had its advantages, as many embroiderers have returned to their former agricultural pursuits, thus earning a good livelihood for themselves and families.

The exports to the United States from St. Gall in the month of May were only $524,044, against $1,166,010 in May, 1907, and $532,187 in April, against $1,156,722 in April, 1907.

BELGIAN WOOLEN INDUSTRY.

SERIOUS DEPRESSION AT THE LARGE VERVIERS FACTORIES.

Consul H. Abert Johnson, of Liege, under date of July 17, contributes the following review of conditions in the Belgian woolen industry:

The three months just passed have proved decidedly unfavorable to the carded-thread branch of the woolen industry. The decline in prices of wool stopped abruptly, and the feeling of unrest previously experienced has been followed by an unusual firmness. Many clients of the woolen mills at Verviers, wishing to take advantage of the low prices prevailing, hurried their orders, and this resulted in giving a certain amount of animation to the market, but, unfortunately, only of an ephemeral character.

Since the beginning of June a period of almost complete calm has held sway, and the trimester closed with conditions decidedly more discouraging than they were at the end of the previous three months. It seems impossible that the buyers of carded thread can abstain from sending in their orders for a much longer period. Transactions have been practically at a standstill since October. The situation generally is so decidedly unsatisfactory that anything like a speedy prosperous revival can hardly be expected. A slight improvement in present conditions is all that can be hoped for.

TEXTILES AND WOOL WASHING AND CARBONIZING.

Conditions in the textile branch of the woolen industry seem to be in a worse state. There was an immense falling off in winter orders during the first trimester, while the orders for summer goods during the second trimester fell far below the normal level maintained during previous years, the decline in the price of the raw material having had a tendency to render buyers rather cautious about giving large orders. Sales for export have continued calm, as most of the countries from which Verviers' clientele is recruited are suffering themselves from the effects of the industrial crisis.

Japan, one of the most important buying countries for the Verviers mills, is also suffering from financial depression, and orders from that part of the world are at their lowest ebb. On the other hand, the unstable prices for raw material and the uncertainty that reigned in the woolen market have tended not a little to aggravate the situation. The semester just finished has been one of the worst ever passed. Rarely before has Verviers displayed such a measure of inactivity in her industries or been subjected to such long periods of forced closing of many of her leading industrial establishments. Such a discouraging situation of affairs is not, however, confined to

this particular locality, and some consolation may possibly be derived from a recognition of the fact that Verviers' competitors in other countries are obliged to face equally unsatisfactory conditions.

Contrary to what had been generally predicted, the termination of the second trimester found the situation in wool washing and carbonizing slightly better. Orders, although not attaining anything like the importance of previous years at the same period, were about normal. The expense of warehousing, insuring, and the care of wool are at present altogether abnormal and absorb a large proportion of the profits on the low prices now prevailing. The future looks uncertain and discouraging, and it appears as though the number of forced closings were destined to increase.

SHANTUNG LACE MAKING.

WORK OF CHINESE GIRLS SUPERINTENDED BY MISSIONARIES.

Transmitting samples of silk and thread lace, pongee silks, and an illustrated catalogue of laces, silks, and drawn work, from the agents of the Chefoo Industrial Mission, Vice-Consul Ernest Vollmer, of Tsingtau, reports thereon as follows:

With a view of furnishing home work to a large number of native converts, missionaries in Shantung years ago taught converts lace making. The industry is carried on more or less throughout the silk districts of Shantung, the center probably being in the Chefoo region. Under careful foreign supervision these products have gained a very high standard of quality, and are comparatively cheap. A large variety of laces, collarettes, ties, mantillas, doilies, and drawn work are prepared mainly by Chinese girls, and sold through the mission stations.

Aside from the handmade products enumerated thread laces are also made, and a trade carried on in plain, patterned, and dyed pongees in pieces. Retail sales are made to all parts of the world. An export duty of 5 per cent ad valorem is collected on all goods leaving China. [Samples and catalogue on file in the Bureau of Manufactures.]

METALS AND MINERALS.

MINING INDUSTRY.

GERMANY.

GREAT IMPORTANCE OF THE MINERAL PRODUCTION OF THE EMPIRE.

Vice-Consul Walter A. Leonard, of Kehl, states that, according to a reliable industrial journal, the total products of the mines in Germany for the year 1907 are represented by 242,609,000 metric tons (metric ton=2,204.6 pounds). The details regarding the industry are given as follows:

The hugeness of these figures can perhaps be better understood by a comparison with the total grain harvested in the same year, which amounted to only a trifle more than 13,000,000 metric tons, and all the goods exported from and imported into Germany during the same period of time would not be represented by half the sum of these mine products.

The development of the German mines has taken place mainly within the last twenty years. In 1889 the 100,000,000 mark had not been reached, and since 1895 the total amount of products from the mines has more than doubled. During 1899 and 1900 the increases were especially noteworthy, and in 1906 it rose to 227,000,000 tons and in 1907 to more than 242,000,000.

COAL MINING FAR IN THE LEAD.

The most important branch is coal mining, the same representing about 85 per cent of the total products of the mines. In Germany it is customary to divide coal into two great classes, based upon differences in color rather than hardness, viz, brown coal (braunkohle), corresponding to the English term lignite, and black, or stone coal (steinkohle), which is equivalent to coal as the word is used in the United States. Lignite has a composition similar to peat, usually with the addition of some animal remains, being a compact mass of plants, the degraded vegetable tissues making a paste-like formation which has not yet passed through a sufficient number of geological changes to have become coal.

Considerably more lignite is claimed to exist in Germany than in any other country, and the increasing output of the same in recent years, compared to coal, can be seen from the following table:

Description.	1895.	1906.	1907.
	Metric tons.	*Metric tons.*	*Metric tons.*
Coal (steinkohle)	79,169,000	137,118,000	143,168,000
Lignite (braunkohle)	24,788,000	54,419,000	62,559,000
Total	103,957,000	191,537,000	205,727,000

Notwithstanding the fact that during the last twelve years the supply of coal in Germany has nearly doubled, the market price, instead of decreasing, has advanced nearly 50 per cent. Working out an average price at the mine it is shown that coal has advanced from $1.62 per metric ton in 1895 to $2.32 in 1907. The price of lignite has not perceptibly advanced, being 56 cents per metric ton in 1895 and 60 cents in 1907.

OUTPUT AND VALUE OF IRON AND OTHER ORES.

The ores mined in 1907 amounted to 29,610,000 metric tons, against 28,620,000 tons in 1906. Of this amount 27,700,000 tons in 1907 and 26,730,000 tons in 1906 were iron ore. The average price of a metric ton of iron ore was 3.84 marks ($0.91) in 1906, against 4.3 marks ($1.02) in 1907.

The quantities and values of the other ores taken from the mines in 1907 were as follows:

Ores.	Metric tons.	Value.	Ores.	Metric tons.	Value.
Zinc	698,425	$10,065,734	Pyrites	196,320	$409,836
Copper	771,227	6,304,620	Gold and silver	8,280	267,988
Lead	147,272	4,791,416			

Arsenic, manganese, vitriol, and alum are also mined in Germany, but only in small quantities and values.

The production of salt in 1907 was over 7,000,000 metric tons, with a value of $17,324,020. Mineral salt (rock salt) amounted to $305,863, and saltpeter (nitrate of potash) to $1,368,349.

While the amount, in tons, of mining products has approximately doubled in the last twelve years, the value of the same has advanced more than two and one-half times, or, more accurately figured, 161 per cent. Tracing the increased products and their value since 1895, we have the following results, reduced to metric tons and American currency, respectively:

Year.	Metric tons.	Value.	Year.	Metric tons.	Value.
1895	120,294,000	$168,147,000	1906	227,146,000	$389,629,800
1900	171,667,000	300,641,600	1907	242,609,000	439,086,200
1905	205,593,000	337,412,600			

In further studying the development of the mining industries it is an interesting fact to note the tendency toward combinations of capital, thus reducing the number of mining companies. This is shown by the following table, making a comparison of the years 1873 and 1905, the latter date being the last one for which figures are available:

Description.	1873.	1905.
Number of mining companies	4,313	1,862
Average output of each company.....tons..	12,522	110,415
Total number of workmen	289,756	661,310
Workmen to each company	67+	355+
Capacity of output for each workman.....tons..	186+	311—

RUSSIA.

IRON DEPOSITS AND OUTPUT SUFFICIENT TO WARRANT EXPORTATION.

Consul John H. Grout, of Odessa, gives the following account of the successful development of the iron mines in southern Russia:

Among the various valuable minerals of South Russia are found rock salt, coal, coprolites, kaolin, sands for glass making and other purposes, manganese and iron ores, the latter easily taking the first place in point of importance. A small village where part of a cavalry regiment was stationed, Krivoi Rog, "Crooked Horn," was but little known outside of a small radius until about a quarter of a century ago, when the outcropping of vast layers of iron ore in its neighborhood began to attract attention. At first an article of secondary importance, limonite ocher, a ferruginous clay, appeared in the market, but very soon the substrata of quartzite embodying unusually rich layers of iron ore became known. Up to that period South Russia had been forced to import vast quantities of iron. Under these conditions the Krivoi Rog ores were taken up with great avidity by metallurgists of the region and the development of this mining industry was rapid. Soon there was more iron ore mined at the Krivoi Rog than could readily be taken up by the metallurgists of the district and attempts were made to export it. These attempts coincided, first with a period of great demand for ores in the world's markets and later on with a keenly felt depression. As a result of these conditions exports at first were made at a rapid rate, thereafter suffering reaction.

THE INDUSTRY LANGUISHING.

At present this industry is in a languishing condition, due in a measure to an attempt to make some other disposition of the surplus ore. More than once it has been suggested that the Government would be wise to forbid exportation of these products in order to retain within the country these valuable ores, upon the supposition that there is but a limited quantity, which has been estimated at 18,000,000 to 90,000,000 short tons. No particular measures have been taken to ascertain the reserve quantities or exact configuration, geologically, regarding which considerable difference of opinion exists.

There are 73 mines, belonging to 33 separate companies or private persons. Of these, 48 mines are in operation and 25 idle. These 33 owners possess among them 9,581 acres of land and they rent 20,501 acres. The payment of rents nearly always takes the shape of royalties and is very low, the average amount paid being about 14 cents per ton extracted, but in some cases six times as much. The area actually occupied by the mines is about 314 acres, which is worked from above ground and 58 acres mined underground. The work is now carried on from 35 to 350 feet below the surface. The thickness of the ore-bearing stratum varies from 7 to 400 feet, while the cut-away clinal ends are covered with 3 to 150 feet alluvium. The quantity mined in 1906 was 3,670,000 short tons.

WAGES AND SANITARY CONDITIONS.

Manual labor, horse, steam, and electric power are employed. The average production per annum per man has amounted to 388 short

tons, or 588 short tons if actual miners alone are taken into consideration. The rate of remuneration for the miners and unskilled laborers varies from $118 to $206 per year. The men, many of whom have come from long distances seeking this work, are comfortably housed and fed at the expense of the mine. Sanitation is well looked after. Hot baths are provided and ambulances and small hospitals are provided for the sick. For these reasons the men live at the Krivoi Rog under far more favorable circumstances than in their native homes. The neighborhood enjoys a good reputation for salubrity. Neither fever nor any other diseases are endemic, and the use of the local waters for drinking purposes is not injurious, although much of it is overcharged with iron.

The absence of phosphorus and the extremely insignificant quantity of sulphur present in the ores make them particularly valuable. Not very long ago it was conjectured, from the schistose nature of the dead rocks underlying the layer of iron ore, that deeper down valuable slate quarries would be found.

NORWAY.

DECREASED EXPORTS OF IRON ORE—PRODUCTION OF BRIQUETTES.

Consul F. S. S. Johnson, of Bergen, reviews the conditions in the mining industry in Norway during 1907 in the following manner:

The iron-ore exports from the port of Narvik in 1907 amounted to 1,401,184 tons, against 1,656,200 tons in 1906, a decrease of 255,019 tons. One company during 1907 produced 38,272 tons of briquettes with a high percentage of iron, and expects to greatly exceed that amount this year.

Another company which does a large export business is constructing a railway to the port of Krokenaes, where quays are to be built equipped so that the ore may be loaded direct into the ship's holds from the railway. The ore to be exported will be treated by the Gustaf Grønsberg process. It now contains 37 per cent of iron, but by this process it will be made into briquettes assaying 66 to 68 per cent. Arrangements are being made for a production of from 600,000 to 900,000 tons annually. The dues to be paid to the State are 3 øre (100 øre = 26.8 cents) per ton of ore, with a minimum of 10,000 crowns ($2,680) per year. The iron mines at Skotselven, which were worked from 1649 to 1854, are to be started again, and are expected to yield about 8,000 tons a year.

COPPER AND PYRITES—METALLIC ZINC FROM LOW-GRADE ORES.

The total output of all the copper and pyrite mines may at the present time be put at 1,300 tons of metallic and 225,000 tons of pyrites, and the value may be estimated at $2,000,000. Considerable development and improvement are under way in several regions, and it is anticipated that in three or four years an output of 400,000 tons will be attained.

Most of the pyrites from one of the largest copper mines is used in the chemical pulp mills in Norway, Sweden, and Denmark, and to a great extent taking the place of the Italian sulphur.

The owners of several lead and silver mines have concluded an agreement to work certain patents for making metallic zinc from low-grade ores. The method will be worked at a Cyclon furnace to be erected at Mo, in the Ranen district, and also at an electric furnace to be built where sufficient electric power is obtainable. At first 50 tons of ore will be treated per day, which are expected to yield 8 tons of metallic zinc, 1 ton of metallic lead, and a little copper and silver. It is also intended to convert the sulphurine acids which are generated in the furnaces into sulphuric acid or superphosphate.

Among the other minerals produced in varying quantities in Norway during the year were nickel, silver. apatite, rutile, quartz, feldspar, silicon earth, and molybdenite.

PRODUCTION OF CEMENT AND GRANITE.

The amount of cement consumed in Norway during 1907 was 260,000 barrels, most of which was manufactured at Slemmestad, Røken, in the Christiania Fjord. These works are now being extended, and the output will shortly be doubled. The price averaged $1.75 per barrel.

The most important stone quarries are found in the Idefjord, south of Frederikshald, on the Swedish frontier, where excellent granite occurs in inexhaustible abundance. From here the stone is exported principally to the United States, England, Germany, and Mexico.

Near Christiania quarries of red quartz syenite (Nordmarkite) are being worked, and quarries of red hotite granite, near Drammen and Tønsberg. At Larvik the famous labradoritic augite syenite (Larvikite) is to be found, while round the coast at Arendal, Bergen, and Trondhjem, gneiss granite is quarried, and at Saltenfjord, in Nordland, excellent marble is found.

The export of granite during 1907 amounted to 140,000 tons, compared with an average of 200,000 tons during the preceding years. The value is stated to be $500,000. The granite was exported chiefly to England. Very little marble was exported during last year.

UNITED KINGDOM.

OUTPUT OF THE MINES AND QUARRIES OF SOUTHWEST ENGLAND.

Consul Joseph G. Stevens, of Plymouth, makes the following report upon the mining industry in southwest England during the past year:

In the county of Cornwall in 1907 there were 88 mines worked, employing 8,533 persons, an increase of 1,418, and in Devonshire the number of mines worked was 24, employing 687 persons, an increase of 28. The output of minerals in each region was as follows:

Minerals.	Cornwall.	Devon.	Minerals.	Cornwall.	Devon.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Arsenic	1,368	129	Tin, dressed	6,003	94
Arsenical pyrites	207	482	Wolfram	250	.....
Clays	.....	68,322	Zinc blende	450	.....
Copper ore	2,802	652	All other	75	34
Iron ore	50	432			
Stone	.....	869	Total	11,205	71,014

In Cornwall there were 389 quarries operated, employing 6,091 persons, and in Devon 441 quarries, employing 2,243 persons. Their production is shown in the following table:

Minerals.	Cornwall.	Devon.	Minerals.	Cornwall.	Devon.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Barytes	.....	1,300	Mica	14,615	.....
Chert and flint	380	13,248	Ocher and umber	.....	1,200
China clay and stone	707,253	75,378	Sandstone	11,330	62,378
Clay	30,610	216,916	Slate	18,492	5,417
Granite	247,090	151,008	Tin, block	80	.....
Gravel and sand	1,116	26,187			
Limestone	303	543,234	Total	1,031,249	1,076,266

It is claimed that there are not a half dozen mines in southwest England that are being operated on a paying basis. There is still an increase in the number of deaths caused by phthisis, caused by the inhalation of stone dust from working rock drills. This disease is frequently contracted by Cornish miners in the Transvaal.

CANADA.

STATISTICS OF THE DOMINION'S MINERAL PRODUCTION FOR LAST YEAR.

Consul-General John G. Foster, of Ottawa, sends the following Canadian newspaper extract covering the Dominion's mineral industry:

The mineral production of the country for 1907 was valued at $86,183,477, as compared with $79,057,308 in 1906 and $28,485,023 ten years ago. The output of the metallic ores was valued at $42,434,087. The nonmetallic minerals were valued at $31,217,000 and the structural materials and clay products at $12,232,330. An estimate of $300,000 is included in this calculation for mineral products, of which no return was made.

The very large falling off of $3,230,436 in the gold production—over 28 per cent—practically represents a falling off in every district, with the possible exception of Nova Scotia. There was an increase of $758,170 in the copper output, a decrease in British Columbia being more than offset by an increase in the copper contents of the Sunbury nickel and copper ores. In pig lead production there was a substantial increase of $257,907. New furnaces were in operation at Hamilton and Port Arthur. The production of lead was less by about 13 per cent. Nickel shows but little change.

The output of silver was over 50 per cent greater than in 1906, and this despite a falling off in British Columbia, the large increase being due entirely to the shipments from the Cobalt district.

Four years ago gold was relatively the most valuable mineral product in Canada, but in 1907 it had fallen to fifth place. A continual shrinkage has taken place in the output of the Yukon from $22,275,000 in 1900 to about $3,150,000 in 1907.

YUKON MINING PROGRESS.

MODERN DEVELOPMENT CALLS FOR EXTENSIVE MACHINERY PLANTS.

Writing of the opportunity for the sale of mining machinery and equipment in the Yukon near Dawson, Consul George W. Shotts, of Sault Ste. Marie, advises that the Canadian Mining Journal of July 15 has this to say:

Canada may look forward to the Yukon as a future field for the sale of large quantities of first-class mining equipment. The country has evolved rapidly from the days when wood fires and the boilers and hoists were the only apparatus needed in working the ground for the placer deposits. Quartz mining is beginning, but placer is the chief industry.

Scores of extensive large method mining plants have been installed in the Klondike since the region began to emerge from the old conditions of individual operations. The investment in dredges and hydraulic equipment have reached many millions of dollars and this line of enterprise seems scarcely more than begun. In connection with the dredges extensive outlay has been necessary for steam and water power plants for generating electricity with which the dredges are driven. For each hydraulic plant long ditch lines are often necessary, necessitating in many instances great outlay for pipe material for siphons, to say nothing of hydraulic giants and the other parts, aside from lumber for flumes, penstocks, and such. The new style of electrically driven elevators or lifts handling tailings from ground being worked by hydraulic on the creek bottoms also calls for considerable mechanical equipment.

The framework of the lifts are entirely of steel, and carry a steel bucket line, similar to a dredge, and are equipped with two large centrifugal pumps to each lift, for handling of water from the sump to the tailing boxes. The hydraulic giants used for washing the gravel down to the lifts are akin to the hydraulic plants used in the operation on hills.

The electrical equipment for conveying power is one of the largest items of expense. Lines from a quarter of a mile to 60 miles long are installed, already conveying power, and heavy wire and transforming stations add to the quantity of equipment materially.

In connection with each line is the generating equipment in the form of dynamos driven by turbines or steam plants. Some of the dredges are supplied with power from steam boilers aboard the craft, but the larger concerns have their steam or power plants ashore and electrical lines with which to convey the electricity to the dredges. The several big companies branching out are planning the installment of extensive power plants of the most modern character. The power will be generated from the vast natural water courses and conducted over hills and valleys with copper wire. The many new hill groups organized for working hydraulic plants will demand much more new equipment before long.

Flumes, ditch-line and pipe-line material, and giants and such, will come largely into demand as a consequence. The prospecting of the dredge ground also makes a demand for more modern equipment in the way of large drilling machines.

THE COAL TRADE.

UNITED KINGDOM.

NEW SCOTCH GAS-COAL CONTRACTS MADE AT DECREASED PRICES.

Consul J. N. McCunn, of Glasgow, writes that the gas-coal contract season in Scotland practically came to a close early in June, and comments as follows upon the trade:

It is estimated that about 90 per cent of the needs of the consumers for 1908–9 have been covered at prices averaging 48 cents per ton under last year's contracts. It is reported that the quantities booked are much heavier than in previous years, not owing to the moderate price but as the result of a constantly increasing consumption of gas, requiring a steady expansion in manufacture.

Gas for heating and cooking purposes is becoming general throughout Scotland, especially in the agricultural and mining districts of Ayrshire, Lanarkshire, and Fifeshire. To meet this increasing demand extensive additions to productive plants are under way and in contemplation.

A recognized authority states that not more than 10 per cent of cannel coals are used in gas making, owing to the reduced illuminating power which now generally obtains. Scotch cannel coal, however, is still in good demand at Continental ports, where good export prices are obtained, and South America is one of the most reliable markets that producers here possess.

FRANCE.

A MARKET AWAITING SYSTEMATIC EFFORTS OF AMERICAN EXPORTERS.

Reverting again to the great demand for coal by the Mediterranean Sea ports, Consul-General Robert P. Skinner, of Marseille, makes the following suggestions for the solution of the freight problem involved in the trade:

There is a market in Mediterranean Sea ports for standard American coal if it can be laid down on this side on terms very slightly better than those of English shippers. Marseille has received and marketed 250,000 tons of American coal in one year. But under more active home trade this market was neglected. Ultimately, American coal will come to this market in large quantities, but the problem will not be solved until either the miners of our coal or the American railroads make the ocean freight rates themselves. The enterprise should be undertaken upon a large scale, vessels being secured under long-time charters or owned outright. Railroads of the United States might find it advantageous to give shippers the benefit of a low through rate to Europe for the sake of the land tonnage which they would obtain, and the steadying influence of foreign markets to which coal could be shipped and stored during the dull season at home.

CHINA.

MANCHURIAN COAL VALUE—PRICES AND SALES.

Consul Roger S. Greene forwards from Dalny a Japanese official analysis of the coal taken from the Fushun mines of the South Manchuria Railway. This may be seen at the Bureau of Manufactures. The consul says:

I am informed that a sample has been sent to the United States War Department to be tested, with a view to making a tender for supplying the army transports.

The company hopes to be able to put on the market about 200,000 tons during the coming year and to increase this figure to a million and some hundred thousand tons in five or six years, but a great deal depends on the development of transportation facilities. At present the quantity that can be marketed is so small that there is sufficient local demand to take practically the whole output at comparatively high prices.

The price f. o. b. at Dalny is now £1 ($4.86), at which figure an export business could hardly be worked up, but it is certain that the coal can be profitably sold at a much lower figure. At present it is not popular on this market, and a considerable quantity of Japanese coal is still used here, some of the complaints being that its flame is too long and that it breaks up easily into small pieces, so that when put on the fire a good deal drops through the grate before being fully consumed, and burning in the ash pan injures the grate. It is considered, however, to be a very promising gas coal, and possibly if the price is made lower the opening of this new coal-supplying region may be of interest to consumers on the Pacific coast of the United States.

NATAL.

EFFORTS TO DISPLACE BRITISH AND OTHER COALS IN NEARBY ZONES.

The following statistics covering the coal industry of Natal and the shipments of coal to foreign countries are furnished by Consul Edwin S. Cunningham, of Durban:

The exports and consumption of Natal coal in 1907 amounted to 1,530,043 tons, against 858,298 tons in 1904. The disposition of the coal in 1907 was as follows: Exported from Durban by sea, 324,425 tons; exported overland, 133,488 tons; bunkered by vessels at Durban, 666,830 tons; consumed on Natal government railways, 245,480 tons; otherwise consumed or stocked in the colony, 159,820 tons.

Included in the item "Exported from Durban by sea" is that which has been supplied by sea to other colonies within the South African customs union, as well as that which has been supplied to other countries. Only 56,850 tons were actually shipped to oversea distinations. Special efforts have been put forth to find an oversea outlet for the inexhaustible supply of Natal coal, and, although the attempt is only at its beginning, the colliery companies are very hopeful of being able to supplant British and other coals in those ports of the commercial world which are situated nearer to Natal than to other coal-producing countries. Special attention has been paid to the Indian market, with the result that on at least one line of railway African coal has been adopted instead of a mixture of the Welsh and Indian article. Natal coal can now be found in stock at several ports in India, at Mauritius, Portuguese East Africa, and at all the ports of British South Africa. Four years ago the first fixed contract for the supply of coal to Cape Town was obtained, and to-day but little other can be found there. It was expected that a certain foreign market had been found when trial shipments were made to Buenos Aires, but it does not appear that the time has yet arrived when the River Plate will place orders with South African collieries. Nevertheless, at the expiration of certain long-term contracts, orders may be obtained by the Natal collieries.

STANDARD NEEDED—MINE LABOR.

The coal bunkered during 1907 represents an increase of 26 per cent over 1906 and 15 per cent over 1905, which can be largely accounted for by the Union Castle Steamship Company's contract, although there has been a considerable increase in the number of vessels calling at Durban en route to Asiatic and Australasian ports. Durban is centrally located for a coaling station for vessels plying between Europe or America and the Far East, and there is every prospect of a largely augmented trade if the quality of the coal proves satisfactory, and the various colleries arrange their output so that a shipowner in any part of the world can place his orders for the product of a particular mine, and depend on being supplied with what he contracts for without running the risk of having coal from another association mine substituted.

Under present conditions should New York owners contract for the coaling of a vessel upon arrival here by a certain colliery they must agree that they will accept another Natal association coal if the supply of what is contracted for is not sufficient. This places the purchaser in a very undesirable position, and he has only the natural inclination of all collieries to establish a high standard for Natal coal

to prevent his being supplied with an inferior article. During 1907 27 vessels bound from the United States to the Philippine Islands called here for bunkers. Most of these vessels were conveying coal to Manila under Government contract.

The labor employed in the collieries is almost equally divided between natives and indentured East Indians. The latter are preferred as being cheaper, and, being indentured for five years, they become experienced miners and their usefulness increases, while the native can take his leave practically at will or on very short notice. White men are employed only as foremen, prospectors, and the like. During the year 1907 440 Europeans were employed, 4,095 natives, and 3,164 Indians, making a total in the Natal mines of 7,699. Of the workers in the mines in 1907 21 persons were killed and 94 persons injured, against 39 killed and 70 injured in 1906.

CANADA.

FACILITIES FOR HANDLING AND STORING THE FUEL ARE IMPROVED.

Consul Martin R. Sackett, of Prescott, makes the following report on the enlargement of the coal depot at that place for supplying fuel to the Grand Trunk and Canadian Pacific railways:

Prescott has, of late, become something of an entering point for American coal. Last year, during the time in which navigation of the St. Lawrence River was practicable, 300,000 tons of coal was landed here by one firm of dealers which has the contract for supplying coal for the use of the Grand Trunk and Canadian Pacific railways.

A large plant with modern appliances for unloading coal from barges and loading the same upon cars was installed here two years ago, and during the past winter its capacity was enlarged 50 per cent, making it possible to discharge two cargoes per day. This coal is of the soft variety, coming by rail to Charlotte, N. Y., where it is loaded upon steam barges for Prescott. A barge can make three trips per week, carrying from 1,200 to 2,000 gross tons per trip. An elevated railway leading from the barges to storage yards, having a capacity of 100.000 tons, is in the course of construction.

WIRE-NETTING MARKET.

AUSTRALIAN NEED OF PROTECTION AGAINST RABBITS CONTINUES.

Consul Henry D. Baker, of Hobart, suggests that American wire manufacturers might find the Australian Commonwealth a profitable field for the exportation of wire netting, concerning which he says:

The apparent impossibility of making much headway against the rabbit pest is causing farmers in this part of the world to look with increasing favor on the use of wire netting to protect their fields against the destructive encroachments of these animals. About 1,500 miles of wire netting, selling at from £25 to £30 ($122 to $146) per mile, was imported last year into the Commonwealth, most of this wire netting being of English manufacture. The new tariff act admits wire netting free of duty. The duty on wire-netting machines is now 15 per cent ad valorem, while under the old tariff they were admitted free of duty.

METAL BEDS IN BRAZIL.

A PROMISING MARKET AFFORDED PRODUCTS OF THE UNITED STATES.

In spite of the high duty charged upon metal beds entering Brazil, Consul-General George E. Anderson, of Rio de Janeiro, is satisfied that there is a good trade possible in that country for American metal-bed manufacturers. This leads him to write:

Somewhat of a "national industry" has been developed in the manufacture of iron beds in Brazil, but the vast mass of the people still use beds of wood without springs. The beds manufactured in Brazil at present are largely of two types. One is of cast-iron ends and sides, upon which a spring mattress on a wooden frame is placed. The other is combined of wooden frame and ends of piping, generally made so that the ends will fold under the body of the bed for moving purposes.

Brass beds are rare and are imported by foreigners for their own use. Ornamental metal beds of any sort are comparatively rare. The factories where beds of Brazilian make are produced are usually small shops, and, being largely the product of hand work, the beds are very expensive.

A cast-iron bed with springs sells at the factory, which generally retails them, at about $30 gold. A single bed of wood and iron piping, with springs attached, retails in the same way for $10.50. While much heavier, it corresponds in quality and use to single beds sold complete in retail stores in New York for $1.50. On the same scale of prices, beds of the sort sold in the United States by mail-order houses for $1.50 ought to sell here for eight times that amount.

IMPORT DUTIES—SUITABLE STYLES.

The only reason the local factories can sell beds at the prices they charge is in the import duty on beds. It is impossible to give a comprehensive statement as to the tariff, for the rate varies on the different sizes of beds, upon the weight, the character, and the value. In iron beds the tariff runs from about $2 on a small child's bed to about $12 on a double bed coming under the class of "decorated." In brass beds the rate of duty runs from $9.30 for a simple child's bed to $42.50 for a double bed "decorated," brass beds here being classed as "copper" beds. Into which particular class any particular bed would come could be told, generally, only by importing one. Some beds are imported, mostly from England at present, and the amount is increasing. In the customs returns metal beds are included with all other metal furniture.

In general, Brazilian buyers prefer furniture of the sort represented by lighter and more fanciful metal beds made in the United States. Value and price being equal, it is probable that lighter beds would not only be more popular here, where furniture runs to the French in style, but also would come in at a lower customs rating. While there ought to be a good business done here in standard designs of beds of low value, the more profitable business at first is likely to be in high-grade goods.

Nothing in this line can be done except by direct representation. A traveling man from the United States making one thorough canvass of the field would probably be able to establish connections which would mean an increasing volume of business for years. In

the trade generally the same conditions obtain as in other lines. Credits should be liberal, though they may be amply covered by prices charged. Prices in general should be quoted f. o. b. New York or other American port, leaving customs matters to be attended to by the importer. This is much the more satisfactory way to American exporters and is the customary way in Brazil.

CORRUGATED IRON ROOFING.

TAKING THE PLACE OF TILES—ENGLAND HOLDS THE MARKET.

Consul R. E. Holaday advises that there has been a marked demand during the past year in the Santiago district of Cuba for galvanized corrugated iron roofing, to which he adds:

This was due to the activity which has been taking place in building operations and the fact that this class of roofing is supplanting to a considerable extent the native tile roofing. England supplies practically all of the corrugated iron roofing that is sold in this market. The merchants claim that they can purchase a better grade of corrugated iron for less money from British manufacturers than they can of American. The dimensions of the iron and the retail price at which it is sold in this market are as follows:

Sheets 26 by 72 inches, 29 gauge, retail at $5 per 100 pounds, and run ten sheets to the 100 pounds; sheets 32 by 72 inches, 28 gauge, retail at $4.90 per 100 pounds, and run ten sheets to 136 pounds. Samples of corrugated iron roofing of British manufacture such as sold in this market are forwarded. [They will be loaned to the American trade by the Bureau of Manufactures.]

LAWS AND ECONOMICS.

BANKS AND BANKING.

GERMANY.

FOREIGN CHECKS A CONVENIENCE AND A NECESSITY IN SAXONY.

The following information concerning the law relative to foreign checks payable in Germany and German checks payable in foreign countries is furnished by Consul Carl Bailey Hurst, of Plauen:

Owing to unfamiliarity in some cases and a wrong interpretation in others, it is necessary to emphasize, with particular reference to foreign checks, the salient features of the German check law, which went into effect on April 1, 1908. It may be mentioned that payment by check is by no means so general in Saxony as in many parts of the United States. The tendency of the new law is to popularize the check as a means of payment, with the purpose of reducing somewhat the tremendous circulation of metallic and paper money. Since the business depression at the close of 1907, paper and silver are more in evidence in this district than formerly.

This check law is wholly distinct from the law governing the postal check service, which goes into force at the beginning of 1909. Owing to the heavy international trade, due to the export of Saxon manufactures and the import of foreign commodities, banking relations between other countries and this Kingdom have assumed proportions of great magnitude. In Plauen alone the many millions of dollars representing the value of the local exports have rendered foreign checks a convenience and a necessity. By its provisions the law promulgated has taken cognizance of these transactions. The recent statute stipulates that the Federal Council of the Empire shall determine the time limit within which checks made out abroad and payable in Germany are to be presented for payment. It fixes as well the time limit for checks written in Germany and payable in foreign countries, provided that there is no conflicting foreign legislation.

GERMAN CHECKS PAYABLE IN FOREIGN COUNTRIES.

The Federal Council has accordingly set the limits as follows: For all countries in Europe, with the exception of Iceland and the Faroe Islands, checks must be presented within three weeks from date; for the littoral of Asia and Africa along the Mediterranean and on the Black Sea or for the islands in these bodies of water, within a month; for the United States, Canada and Newfoundland, Mexico, the Azores, Madeira, the Canaries and Cape Verde Islands, within two months; for all other foreign countries, including the German protectorates, within three months; this last clause embraces our farthest insular possessions.

These limitations also hold good for checks made out of Germany, and payable abroad, in so far, however, as no applicable foreign law

prescribes differently. The usual provision is also stated that in the event the date of payment falls on a Sunday or on a recognized State holiday, the following workday is to be counted as the final date of presentation.

CHECKS PAYABLE IN GERMANY.

Checks payable in Germany can only be drawn on banking firms under State supervision, public institutions, registered companies that may be engaged in banking business, and on savings banks. Otherwise, checks are subject to an internal-revenue tax. Only checks payable abroad can be made out to others, with the proviso that the laws at the place of payment so permit.

Checks are always payable on sight, and the designation of another time of payment renders the check void and subject to tax. Checks dated ahead must be stamped for internal revenue. A check can not be recalled during the time within which it should be presented for payment. It is in the interest of anyone holding a check to present it as soon as possible at his bank, but not to give it as a means of payment to a business firm or private person.

If the amount of money to be paid be stated on a check in letters and in figures, the amount given in letters is to be considered as the correct sum in variation between the two. If the sum be given several times in letters or in figures, the least sum is to be taken as correct. A check can by indorsement be transferred, unless the words "Not to order" or an equivalent are mentioned. If the indorser write "Without liability" or an equivalent, he is relieved of responsibility in connection with the indorsement. On checks where the signature of the writer or of the indorser may be forged, the remaining authentic signature is binding.

BRAZIL.

A FIELD WAITING FOR THE INVESTMENT OF AMERICAN CAPITAL.

Consul-General George E. Anderson, writing from Rio de Janeiro, again calls attention to the importance of establishing United States banking facilities in South America.

The subject of establishing an American bank in Brazil, which has been previously reported upon by this consulate-general, has been considered by a number of interests in the United States, though nothing definite has resulted. The financial center of Brazil is Rio de Janeiro, and such an institution would naturally have its center here. The fact that practically all other foreign banks here also have establishments in Buenos Aires, Montevideo, and some other South American cities indicates that such an institution should be established upon a broad foundation, and that successful plans for it would include most of the South American continent. It would be of assistance to American trade if a bank were established to cover business in Brazil and Argentina, and the undertaking would be profitable.

There are five so-called foreign banks doing business in Rio de Janeiro. They are the London and River Plate Bank, with a subscribed capital of £2,000,000 (£1=$4.86), a paid-up capital of £1,200,000, and a reserve fund of £1,200,000; the Lond[illegible] and Brazilian Bank, with a capital of £2,000,000, a paid-up capital of

£1,000,000, and a reserve of £910,000; the British Bank of South America, with a capital of £1,300,000, a paid-up capital of £650,000, and a reserve fund of £535,000; the Brasilianische Bank für Deutschland, with a realized capital of 10,000,000 marks (mark=23.8 cents), and the Banco Commerciale Italo-Brasiliano, with a paid-up capital of 5,000,000 milreis ($1,500,000), and a reserve of 1,000,000 milreis ($300,000), the last named being organized in Brazil, but owned largely in Italy.

STATEMENT OF RIO DE JANEIRO BANKS.

The general situation of the banking business here is best indicated by the following statement of the position of the three largest banks at the end of February, this year (milreis=30 cents):

	London and Brazilian Bank.	London and River Plate Bank.	Brazilian Bank fur Deutsch.
ASSETS.	*Milreis.*	*Milreis.*	*Milreis.*
Capital uncalled	8,888,889		
Bills discounted	8,126,709	2,791,305	21,735,798
Loans and guaranteed accounts	13,179,656	6,197,454	16,050,557
Bills receivable	34,506,012	23,372,664	26,677,772
Bills and securities pledged	23,884,392	17,070,125	22,942,977
Securities in depositories		45,108,584	23,440,055
Accounts head offices and branches	29,987,938	18,570,590	16,058,094
Cash	23,347,044	9,865,853	10,735,093
Sundry	3,557,854	2,715,947	
Total	145,478,494	125,892,522	137,640,346
LIABILITIES.			
Capital	17,777,777	3,500,000	10,000,000
Reserve fund			
Deposits at sight	30,566,723	13,494,135	20,011,924
Deposits at fixed dates	13,653,540	10,321,831	15,938,949
Securities pledged and belonging to customers	23,884,392	62,179,709	73,060,905
Head offices and branches	14,686,234	9,708,717	14,928,458
Sundry	41,909,828	26,488,130	3,697,110
Total	145,478,494	125,892,522	137,640,346

Compared with a similar statement two years ago this shows a large increase in loans and discounts and less dependence upon exchange for profits. Two years ago the vast mass of the profits of all the foreign banks in Brazil was from exchange. In the past few months there has been a remarkable change in the course of the banking business here due somewhat to the course of the Brazilian Government in ordering that all exchange transactions growing out of customs duties shall be made through the Bank of the Republic, the Government banking institution. At the annual meetings of the corporations this change was spoken of as occasion for congratulation. These banks have been paying 16, 18, and 20 per cent per annum dividends on their capital, and will average about 9 per cent on the capital and surplus during the past ten years or more. Substantial buildings have be n purch l or built, and their business is well established and the mo us in t countries they cover.

FEW RESTRICT

While the [illegible] or less regulated in its relatic ce, as the rule concerning t t of duties in gol nks by

the Brazilian Government. While there is some talk of legislation along such lines present indications are that nothing will be done. The banks do business and maintain their credit upon their financial showings and without other guaranty than their own credit. They issue no paper money or similar obligations.

From the standpoint of a loan and discount business a bank founded by American capital and familiar with American banking methods ought to have a first-class opportunity for establishing itself here. American business here is rapidly increasing, the percentage of increase of American-origin imports in Brazil last year was higher than that of any other great trading nation, and the need of American banking facilities is constantly felt.

Discounts of paper based upon American goods—American consignments—are constantly offered, and these would largely go to an American bank, other things being equal. The fact that a material portion of the loan of the State of São Paulo for its coffee valorization scheme was placed in the United States by a New York bank, which received its allotment from a European bank, suggests other lines of banking operations which have been found very profitable.

SAVING IN EXCHANGE.

In the way of exchange it should be noted that imports from the United States amount to about $25,000,000 annually, and exports to the United States to about $85,000,000. The balance is paid by way of Europe. On exchange between the United States and Brazil at present bankers charge a profit between Europe and Brazil and then between Europe and the United States, or a double profit. American bankers here would therefore be upon exactly the same level with the European banks here as regards exchange.

They might settle by way of Europe, and to the extent of the $25,000,000 of imports they would have a direct advantage, off-setting the tendency of money to flow from the United States here in payment for coffee and rubber by that amount, while with Europe, by reason of large loans placed abroad and heavy interest charges, the tendency of money is to flow from Brazil to Europe in spite of the excess of exports over imports. An American bank here would have all the advantages held by European banks besides other advantages not possessed by them. The establishing of such a bank here would certainly work to the advantage of American export trade.

INDIA'S RESERVE FUNDS.

STATEMENT SHOWING THE GOLD AND SILVER COIN AND BULLION.

Consul-General William H. Michael, of Calcutta, reports that on June 15, 1908, the amount of silver held in the paper currency reserve in India was $86,400,000, gold coin and bullion $6,766,665, and silver bullion under coinage $26,000,000. Gold coin held in the paper currency reserve in England, $13,500,000; the silver held in gold standard reserve, $20,000,000 (the permanent nucleus of its silver branch), and $14,266,665 paid into the reserve out of the proceeds of sterling bills drawn on the Secretary of State, exclusive of $6,633,330 held in deposit on account of further bills drawn but not yet presented for ...ment in London.

MUNICIPAL OWNERSHIP.

UNITED KINGDOM.

MANAGEMENT OF THE VARIOUS PUBLIC UTILITIES OF BIRMINGHAM.

The operation of the various public utilities under municipal management in the English city of Birmingham is reported upon as follows by Consul Albert Halstead, the statistics being for the year ended March 31 last:

The gas department contributed $298,378 toward the reduction of taxation, an increase of $18,245 over the previous year. Besides this, $166,872 of profit were assigned to the sinking fund. The increased profit is noteworthy, as the expenditure for coal was $351,459 greater. The sale of gas showed an increase of $146,642, while that of residual products brought $214,666 more, the increase from the sale of coke alone being $173,199.

STREET RAILWAYS AND ELECTRICITY.

The first full year of the management of the street railways by the city showed a total profit of $589,396. After providing for certain obligations there remained a net profit of $350,570. Of this $180,242 was placed in the reserve fund, making that fund $311,523, the balance being applied to the reduction of taxation. The capital expended in reconstructing the street-car lines, electrifying, and purchasing new cars was $4,615,520. The average fare per passenger was 1.8 cents, the average cost of carrying a passenger was 1.5 cents, and the average number of passengers per car mile was 12.57.

The electric supply department, which, in addition to selling electric light and power, furnishes the street-railway department with its motive power, had a profit of $296,501, of which $121,074 was applied to the redemption of debt and the balance to meet interest charges. This undertaking is still in the process of development, and capital charges continue.

WATERWORKS' DEFICIT—EARNINGS OF THE CITY DEPARTMENTS.

The water department is not as profitable an undertaking. Some years ago the city found it necessary to increase its water supply, and it was deemed advisable to go to Wales for the water. The cost of this improvement was greater than anticipated, and while the city has an excellent supply of the purest water, the undertaking is still a charge on the taxpayers. The deficit, after paying working charges and interest for the year, was $398,766, or $17,880 less than last year—an improvement. To meet this deficit $316,323 will be paid out of the city revenue, which revenue comes from taxation and from the profit of the gas, street railways, and certain small city undertakings and $82,443 will be charged to capital account under the authority granted when Parliament authorized the construction of new waterworks.

The total contributions of the gas and street railway departments to Birmingham's taxes were $468,710. As $316,323 deficit of the water department must be paid out of the city revenue, the actual profit to the city from the four great undertakings—gas, water, electricity, and street railways—was $152,388. If the $82,443 remaining of the water department deficit had been met out of the revenue, the actual profit on these four undertakings would have been $69,940.

GLASGOW STREET RAILWAYS.

SUCCESSFUL OPERATION OF THE MUNICIPAL ELECTRIC LINES.

Consul J. N. McCunn, of Glasgow, reports that the official details of the operations of the municipal street railways of that Scotch city for the year ended May 31 show gratifying results, and gives the following particulars:

The number of passengers carried was 226,948,290, an increase of 2,885,192 over the previous year. The revenue from passenger fares reached the record figure of $4,416,321, an increase of $97,883 over the previous year's total. While the total receipts for the year are the highest yet recorded, the increase is the smallest in the past ten years. In 1901–2 the increase of receipts over the previous year reached the extraordinary sum of $608,040. This remarkable increase was accounted for by the fact that at that time the great extension scheme was being rapidly utilized, and the receipts were proportionately increased. The total receipts, however, of that year (1901–2) were only $2,990,041, so that the revenue has increased in six years $1,426,281, or about 50 per cent. The comparatively short extensions to the track mileage made during the past year and the inclemency of the weather during the summer and autumn seasons are the attributed causes for the lower rate of increase.

The average track mileage (single) open during the year was 179 miles, an increase of 10 miles. The rates of fare charged ranged in regular gradations from 1 to 8 cents, over 60 per cent of the traffic being carried at the 2-cent rate.

AUSTRIA.

CONTROL OF PUBLIC SERVICES ASSUMED BY THE CITY OF REICHENBERG.

Vice-Consul Edward T. Heyn, of Reichenberg, states that the public utlities of that city are owned and operated by the municipality, with the exception of the gas works and the telephone. The gas works are conducted by a private company, while the telephone is under the control of the Austrian postal department. Mr. Heyn continues:

In 1896 the Austrian minister of railroads granted a privilege to the city of Reichenberg for the construction of a local electric street-car line, and also one to the neighboring city of Roechlitz. Not wishing to construct these lines, the city granted a franchise to a private company to build and operate them. In 1905 the city resolved to buy up the stock of the private company and operate the roads. Under the management of the company the street-car line never paid a dividend, and the interest on the borrowed capital was too high for the income. Since assuming control of the lines the city has operated them with an important reduction of capital.

The original franchise granted to the street-car company provided not only for the operation of a subway line, but also for the establishment of an electric power and lighting plant. The company refused to make use of this right unless it received a monopoly until 1947,

the free use of water from the city waterworks, and to be allowed to charge private persons 14 cents per kilowatt for lighting purposes and 6 cents for power. The company was not willing to reduce the price for lighting until after five years, and only then if its net profits amounted to 8 per cent. These privileges the city refused to grant, deeming them burdensome, and this resulted in the purchase and operation by the municipality of the street-car system and electric lighting and power plant of the company.

In 1901 the city decided to build waterworks, and purchased six springs on the highest mountain in the vicinity. The waterworks cost $345,000 and have an output of 18.21 gallons of water per second. The city makes a charge of 10 per cent on all rents for water purposes.

Although the gas works are under private management, according to the agreement between the company and the city the latter, at the end of fifteen years, is entitled to assume control of the gas works on the payment of a stipulated price. This period expires on July 1, 1909, and the city has decided to purchase the works at that time and operate them thereafter.

FORMOSAN BUDGET.

INCREASE IN EXPENDITURES AND CAUSES THEREOF.

Consul Julean H. Arnold, of Tamsui, furnishes the following information concerning the receipts and expenditures of Formosa for the year ending March 31, 1909:

The budget of the Formosan government-general for the fiscal year ending March 31, 1909, as approved by the Imperial Japanese Diet, provides for an expenditure of $16,867,921, an increase over the amount for the previous year of $2,297,882. The principal items making up the increased expenditures are (1) an increase of about $200,000 in the general administrative expenses; (2) an increase of about $450,000 in subsidies to local fiscals; (3) an increase of $704,648 in special Government undertakings, such as railway construction, Takao harbor works, and irrigation works; (4) an increase of $594,000 in general public works; (5) an increase of $200,000 in purchase of fertilizers for the encouragement of the sugar industry; (6) an increase of $40,000 in subsidies to Japanese steamship lines.

To offset these increased expenditures there is an estimated increase of $556,000 in the sugar-consumption tax, due to an increased tariff; the tobacco monopoly is expected to increase its revenues by $150,000, and the Government railways by $135,000. In addition to these items there was transferred from the budget of 1907 a balance of $1,364,870, as compared with $77,298 for the previous year. Owing to a heavy decline in the price of camphor, it is estimated that the receipts from the camphor monopoly will be less by $400,000 than those for the year 1907. The receipts from the opium monopoly are estimated at $2,141,810, which is a trifle more than those realized during the previous year.

The items having to do with expenditures for public works should be of particular interest to American exporters.

PATENTS AND TRADE-MARKS.

THE ORIENT.

NEW TREATY FOR PROTECTION OF AMERICAN PRODUCTIONS.

Two treaties were signed in Washington on May 19 between duly appointed representatives of Japan and the United States, for the protection in China and Korea of inventions, designs, trade-marks, and copyrights of American citizens and Japanese subjects. The conventions have since been ratified and the ratifications exchanged in Tokio.

The principal provisions of the treaty concerning China are as follows:

ARTICLE I.—Inventions, designs, and trade-marks duly patented or registered by citizens or subjects of one high contracting party in appropriate office of the other contracting party shall have in all parts of China the same protection against infringement by citizens or subjects of such contracting party as in the dominions and possessions of such other contracting party.

ART. II.—The citizens or subjects of each of the two high contracting parties shall enjoy in China the protection of copyright for their works of literature and art as well as in photographs to the same extent as they are protected in the dominions and possessions of the other party.

ART. III.—In case of infringement in China by a citizen or subject of one of the two high contracting parties of any invention, design, trade-mark, or copyright entitled to protection in virtue of this convention, the aggrieved party shall have in the competent territorial or consular courts of such contracting party the same rights and remedies as citizens or subjects of such contracting party.

ART. IV.—Each high contracting party engages to extend to the citizens or subjects of the other contracting party the same treatment in China in the matter of the protection of their commercial names as they enjoy in the dominions and possessions of such contracting party under the convention for the protection of industrial property signed at Paris, March 20, 1883. "Hong" marks shall be considered to be commercial names for the purpose of this convention.

ART. V.—Any person amenable to the provisions of this convention who possesses at the time this convention comes into force merchandise bearing an imitation of a trade-mark owned by another person or entitled to protection under said convention shall remove or cancel such false trade-mark or withdraw such merchandise from market in China within six months from the date of the enforcement of this convention.

ART. VIII.—Unauthorized reproductions by the citizens or subjects of one high contracting party prior to the operation of this convention of the works of literature and are as well as photographs of the citizens or subjects of the other contracting party published after the 10th day of May, 1906, and entitled to protection in virtue of this convention shall be withdrawn from sale or circulation in China within one year from the date of the enforcement of this convention.

KOREA.

The principal provisions of the treaty concerning Korea are as follows:

ARTICLE I.—The Japanese Government shall cause to be enforced in Korea simultaneously with the operation of this convention, laws and regulations relative to inventions, designs, trade-marks, and copyrights similar to these which now exist in Japan.

These laws and regulations are to be applicable to American citizens in Korea equally as to Japanese and Korean subjects in case the existing laws and regulations of Japan referred to in the preceding paragraph shall hereafter be modified according to the principle of such new legislation.

ART. II.—The Government of the United States of America engages that in case of the infringement by American citizens of inventions, designs, trade-marks or copyrights entitled to protection in Korea, such citizens shall, in these respects, be under the exclusive jurisdiction of the Japanese courts in Korea, the extraterritorial jurisdiction of the United States being waived in these particulars.

ART. IV.—Korean subjects shall enjoy in the United States the same protection as native citizens in regard to inventions, designs, trade-marks and copyrights upon the fulfillment of the formalities prescribed by the laws and regulations of the United States.

ART. V. Inventions, designs, trade-marks and copyrights duly patented or registered in Japan by citizens of the United States prior to the enforcement of the laws and regulations mentioned in Article I hereof shall, without further procedure, be entitled under the present convention to the same protection in Korea as is or may hereafter be there accorded to the same industrial and literary properties similarly patented or registered by Japanese or Korean subjects.

Inventions, designs, trade-marks, and copyrights duly registered in the United States by citizens or subjects of either high contracting party or by Korean subjects prior to the operation of the present convention shall be similarly entitled to a patent or registration in Korea without the payment of any fees, provided that said inventions, designs, trade-marks, and copyrights are of such a character as to permit their patent or registration under the laws and regulations above mentioned, and provided further that such patent or registration is effected within one year after this convention comes into force.

ART. VI. The Japanese Government engages to extend to American citizens the same treatment in Korea in the matter of the protection of their commercial names as they enjoy in the dominions and possessions of Japan under the convention for the protection of industrial property signed at Paris, March 20, 1883.

"Hong" marks shall be considered to be commercial names for the purpose of this convention.

A communication from the Department of State concerning trade-marks suggests that the present occasion presents an excellent opportunity to impress upon Americans that in Japan the system is priority of registration and in the United States a priority of use, and that the Japanese is the one in use in a majority of countries; consequently, every American who wants protection for his industrial property in China, Japan, and Korea should register at the earliest possible moment at the Tokyo patent office.

Japan is disposed to recognize priority of use by a liberal interpretation of the existing laws, such as by refusing to entertain wrongful registration and by even going so far as to cancel registrations previously made.

An American whose trade-mark or other such right has been pirated should lose no time in seeking registration and in moving for the annulment of the wrongful registration from which his business is suffering. If these points impressed themselves upon those most interested, the benefits of these conditions would be great, but conditions can accomplish little where the interested beneficiaries are too indifferent or apathetic to avail themselves of the protection afforded them.

UNITED KINGDOM.

REPORT OF PATENT OFFICE—MANY MECHANISMS IMPROVED.

Consul J. N. McCunn forwards the following Glasgow newspaper review of the British patent office operations during 1907:

The fertile ingenuity of the British inventor is shown by the fact that 29,040 patents were applied for during 1907. This total is a slight decrease on 1906,

for the twenty-fifth report of the comptroller-general of patents, designs, and trade-marks just issued gives the number of applications during that year as 30,030.

The number of designs and trade-marks registered last year were 24,039 and 6,255, respectively, while the receipts from patents fees were £265,012 (£1= $4.86), as compared with £255,646 in 1906—an increase of £9,366; from designs, £5,473, as compared with £4,344—an increase of £1,129; and from trade-marks, £18,447, as compared with £15,559—an increase of £2,888.

The increase in trade-mark fees is due partly to the revised scale of fees, which only came into operation in the course of the previous year, and partly to the large increase in the number of trade-marks registered.

ACTIVITY IN MOTOR INVENTIONS.

The comptroller also says, "The great inventive activity in connection with the motor-car industry which has produced such a large number of applications for patents in recent years now show signs of falling off. Judging from the titles only, the number of inventions relating to motor-road vehicles during the year 1907, although still large, has decreased nearly 35 per cent from that of the previous year.

"Great attention has been given to devices for making the wheels, hubs, and rims readily detachable, and there are still a considerable number of inventions for preventing side slipping or 'skidding,' although the total number for the year is less than that for the last quarter of 1906.

"In connection with cycles, the most striking feature has been the continued development of hub, variable speed gears, and back-pedaling brake mechanism, but another feature which has recently come into prominence is the production of the parts of the machine by cheaper mechanical processes, as by stamping them from sheet metal, instead of making them by cutting operations."

THE PATENTS ACT.

The report also treats at length of the patents and designs act, 1907, which deals with patents worked wholly or mainly abroad, and is designed to check the system under which patentees have in the past been enabled to take out patents in this country, not with any intention of working them here, but with the object of preventing British manufacturers from producing articles which might compete with them, either in their own or other markets.

To discourage this practice the act provides that at any time not less than four years after the date of a patent and not less than one year from the passing of the act, any person may apply to the comptroller for the revocation of a patent on the ground that the patented article is manufactured, or that the patented process is carried on, exclusively or mainly, outside the United Kingdom.

A notice pointing out the effect of this amendment of the law has been sent out to nearly 70,000 patentees whose patents are in force in this country. Prior to the passing of the act patentees were under no restriction in the imposition of these conditions, it having been held by the courts that a patentee was entitled to impose any conditions, however unreasonable, on the sale or lease of articles manufactured under his patent.

TO SUPERSEDE SIGNALMEN.

"The occurrence during the year of several serious railway accidents, owing to the failure of signals, has caused much attention to be given to automatic electrical systems of signaling, in which the services of signalmen are entirely dispensed with, and the signals are given on the engine itself instead of by means of the usual wayside devices.

"Several applications have also been made for stopping trains automatically when the signals are against them. The occurrence of accidents in lifts has directed the attention of inventors toward the improvement of devices for preventing a mine or lift cage from falling down the shaft in the event of its hoisting cable breaking.

"Owing to the success attained by certain flying machines, inventions relating to aeronautics were more than twice as many as in 1906 and nearly five times as many as in 1905. A large increase is also observable in the subject of wireless telegraphy, and some attention was given to the transmission of portraits and designs by telegraphic means."

CHILE.

AMERICAN MANUFACTURERS LOSE BY FAILURE TO REGISTER.

Consul Alfred A. Winslow, of Valparaiso, gives the essential features of the Chilean laws governing trade-marks in that country, and urges registration by American manufacturers. He says:

American manufacturers are losing much in Chile and will find themselves badly crippled when they really get into this field in earnest after business because they have not registered their trade-marks, or the names given their special brands of goods.

Attention should be given this matter, because as the different American goods become better known the greater will be the temptation to take an unjust advantage. Any person may register a trade-mark here, even after a certain brand of goods has been in the Chilean market for several years, and thus drive the original maker of the goods from the country, unless the brand or trade-mark was registered in time.

TRANSLATION OF THE LAW.

I append a careful translation of the law now in force bearing on these matters:

1. A register is open for the registration of trade and commercial marks, both national and foreign.

2. The name "trade-mark" is used to designate the marks placed by the manufacturers or producers on manufactured articles, either Chilean or foreign, while the name "commercial mark" designates the mark placed on the articles by the merchant who sells them.

3. Proper names, emblems, or any other signs adopted by a manufacturer or merchant to distinguish the article he makes or sells, will be considered as trade or commercial marks. In addition, they must carry the inscription "Marca de Fabrica," or the initials "M. de F.," or "Marca Commercial" (M. C.).

4. The name given a country estate, foundry, factory or mill shall be the exclusive property of the owner of the said estate, foundry, factory, or mill.

5. The person registering a trade or commercial mark has the sole right to use the same.

6. Transfers of marks, or permission that may be given to others to use said marks, must be noted in the register and advertised for ten days in the newspapers.

7. Registration must be renewed after ten years, otherwise it becomes void.

8. The register referred to will be opened in the office of the National Agricultural Society, under the direction of the president of the society and a delegate named by the council, who must be a member of the board of directors of the society.

9. The entry in the register must state the day and hour in which the entry is made; the name of the proprietor, his name and domicile; the name of the place where the factory is established; the class of goods or commerce designated by the mark, and a facsimile of the mark. To this must be added the number of the order that corresponds to the mark deposited, and any other data that may be thought necessary. Both the register and the copy thereof given to the interested party must be signed by the president of the agricultural society or his deputy, by the interested party, and two witnesses.

10. A fee of 12 pesos will be paid to the society for the entry of a trade-mark, 3 pesos for a commercial mark, and 1 peso for an authenticated copy of the inscription.

11. Any person falsifying or making fraudulent use of a trade or commercial mark spoken of in the present law will be subject to the penalties prescribed by the penal code.

12. Articles bearing false marks will be confiscated for the benefit of the injured party, while the instruments of falsification will be destroyed.

13. A list of the marks registered will be published in August of each year.

PARCELS POST.

CHILE.

STORAGE FEES TO BE CHARGED ON UNCLAIMED FOREIGN PACKAGES.

Consul Alfred A. Winslow, of Valparaiso, forwards a translation of an order issued by the director-general of posts of Chile, which affects to a certain extent the usefulness of the foreign parcels-post service. Concerning it the consul writes:

The new charges went into effect on May 15 and are based upon the Chilean paper dollar, the value of which is fluctuating. At the time of writing, June 16, it was worth about 18¼ cents United States currency, while not long since it was worth 20 cents, and may soon again rise in value. The order is as follows:

Foreign postal packets must be withdrawn from the post-office within seven days after notice of arrival, which will be published in the newspapers or sent by the postal authorities to the interested party. Those not retired in the time mentioned will be charged 20 centavos (100 centavos=$1 Chilean) for the first four days after the period mentioned and 20 centavos for each succeeding day. This fee must be paid in postage stamps in accordance with the directions of the director-general.

It is desired to apply this fee at present only to the packages entered at Valparaiso, Santiago, Concepcion, and Iquique, and, it will be perceived, after seven days have passed from the date of the act of valuation. The amount of storage charges due will be collected in stamps, which will be placed on the original act of valuation and canceled.

This fee will apply until twenty days have passed, counting from the eighth day following the valuation, as will be seen from the following table:

Day after notice.	Fee.	Day after notice.	Fee.
Eighth	$0.20	Fifteenth	$1.00
Ninth	.20	Sixteenth	1.20
Tenth	.20	Seventeenth	1.40
Eleventh	.20	Eighteenth	1.60
Twelfth	.40	Nineteenth	1.80
Thirteenth	.60	Twentieth	2.00
Fourteenth	.80		

After twenty days the packet will be considered as unclaimed and this office will be notified, in order that the sender of the packet may be informed.

NATAL.

INAUGURATION OF A SERVICE FOR TRANSMISSION OF FARM PRODUCE.

Consul Edwin S. Cunningham, of Durban, reports that a rather useful innovation has been authorized by the Natal postal authorities which should be of considerable use to the agricultural community of the colony, concerning which he writes:

It is the Natal produce parcels post, under which parcels not weighing over 11 pounds, containing articles produced, or if manufactured, produced and manufactured, wholly within the colony, are now accepted at all post-offices in Natal for conveyance by post to any place within the colony at the following rates: Up to 1¼ pounds, 6 cents; over 1¼ pounds and not more than 3 pounds, 12 cents; over [illegible]nds and not over 6 pounds, 16 cents; over 6 pounds and not over [illegible]s, 20 cents; over 9 pounds and not over 11 pounds, 24 cents. [illegible] may be registered on the payment of an additional fee of

8 cents. The maximum dimensions are the same as for inland parcels post.

This is intended only for the convenience of transmission between points in Natal. All parcels for destinations outside the colony must be prepaid at the ordinary inland parcels post rates. The articles which may be sent include everything produced on the farm, such as butter, eggs, poultry, bread, fruit, dried meats, jam, honey, tobacco, plants, and vegetables. The object of the Natal produce parcels post is to afford the producer a cheap and easy means of directly supplying the consumer.

ITALY.

CONVENTION PROVIDES FOR SERVICE WITH THE UNITED STATES.

Announcement is made of the conclusion of a parcels-post convention between the United States and Italy, which will go into effect August 1.

Thereby parcels of merchandise, prepared in accordance with parcels post regulations, not exceeding 11 pounds in weight nor measuring more than 3 feet 6 inches in length, and 6 feet in both length and girth combined, may be sent in the mails to any post-office in Italy at a postage rate of 12 cents for each pound or fraction of a pound. It is stated that a delivery charge, not exceeding 5 cents, in the United States on parcels from Italy and 25 centesimi (about 5 cents) in Italy on parcels from the United States may be collected from the addressee.

CONVICTS AS FARM LABORERS.

SUCCESSFUL EXPERIMENT IN FIELDS OF AN AUSTRIAN COMMUNITY.

Consul Charles B. Harris makes the report from Reichenberg that, owing to the scarcity of farm laborers in that part of Austria, the civil authorities are experimentally hiring out to farmers convicts for work in the fields, some of the results being stated:

The experiment is said to be proving successful, especially to the farmers. The selection of the convicts for such work is made from the most orderly and well-behaved and from among those who it is thought will not attempt to escape. The prisoners so far employed are much pleased with the work, and their employment is an incentive to others to behave well in the prison, that they also be taken to the fields. The work by the convicts is willingly and well done, and as much labor is performed by them as is done by the regular farm employees, if not more.

The prisoners are taken every morning to the field, carrying with them their food, except a small lunch consisting of bread and butter which is furnished by the farmer. The farmer pays the State 1 crown and 40 hellers per day, equal to 28 cents United States currency. Of this sum 30 hellers, or 6 cents, are credited to the account of the prisoner and paid to him upon his discharge from imprisonment.

It is stated that there is no objection among the labor and trade guilds or the people to the employment of convicts in the fields as agricultural laborers.

CANADIAN BOUNTIES.

PAID ON IRON, STEEL, LEAD, PETROLEUM, AND BINDER TWINE.

Consul-General John G. Foster, of Ottawa, furnishes the following summary of the bounties paid in Canada under laws now in force:

The bounties paid by the Canadian Department of Trade and Commerce on certain productions during the calendar year 1907 were as follows: Pig iron, $793,005; steel, $1,098,873; wire rods, $412,417; crude petroleum, $414,158; manila fiber (used), $38,893; total, $2,757,346. The standard price of pig lead was so high in 1907 that no bounty had to be paid.

The following are the classes of pig iron and puddled iron bars manufactured for pig iron entitled to bounty: (1) Pig iron from Canadian ore; (2) pig iron from foreign ore; (3) puddled iron bars manufactured from pig iron made in Canada. The bounty to which the foregoing classes are entitled per ton is as follows—calendar years:

Year.	1.	2.	3.
1907	$2.10	$1.10	$1.65
1908	2.10	1.10	1.65
1909	1.70	.70	1.05
1910	.90	.40	.60

On rolled, round wire rods not over three-eighths of an inch in diameter, manufactured in Canada from steel produced therein from ingredients of which not less than 50 per cent of the weight thereof consists of pig iron made in Canada, when sold to wire manufacturers for use or when used in making wire in their own factories in Canada, $6 per ton is paid.

IRON AND STEEL BOUNTIES.

The following are the classes of iron and steel on which bounties are paid: (1) Steel manufactured from ingredients of which not less than 50 per cent of the weight shall consist of Canadian pig iron; (2) pig iron manufactured from Canadian ore by the process of electric smelting; (3) steel manufactured by the electric process direct from Canadian ore; and steel manufactured by electricity from pig iron smelted in Canada by electricity from Canadian ore.

The bounty per ton on the foregoing for the calendar years 1907–1910 is as follows:

Year.	1.	2.	3.
1907	$1.65	$2.10	$1.65
1908	1.65	2.10	1.65
1909	1.05	1.70	1.05
1910	.60	.90	.60

Bounty may be paid upon the molten iron from the ore which in the electric furnace enters into the manufacture of steel by he direct process, the weight of such iron to be ascertained from

the weight of steel manufactured. No bounty shall be paid on steel ingots from which steel blooms as billets for exportation from Canada are manufactured.

LEAD BOUNTY.

The bounty on every 100 pounds of lead contained in lead-bearing ores mined in Canada is 75 cents, provided the bounty to be paid in any fiscal year shall not exceed $500,000. When the standard price of pig lead in London exceeds £12 10s. ($60.83) per ton of 2,240 pounds, such duty shall be reduced by the amount of such excess. Payment of this bounty may be made from time to time to the extent of 60 per cent, the remaining 40 per cent at the close of the year. If at the close of any year it appears that the quantity of lead produced during that year, on which bounty is authorized, exceeded 33,333 tons of 2,000 pounds each, the bounty shall be reduced to such sum as will bring the payments within the $500,000. Products of lead manufactured in Canada from lead ores mined in Canada, without the intervention of the smelting process, may be brought within the provisions of the bounty act.

As the lead bounties expired on June 30, 1908, the Minister of Finance has offered in parliament a resolution, which will undoubtedly be enacted into law, extending them to June 30, 1913, raising the standard price of lead in London to £14 10s. ($70.56), removing the $500.000 limitation to be paid in any single year, but providing that not more than $2,500,000 shall be paid during the extended act.

PETROLEUM, BINDER TWINE, AND CORDAGE.

A bounty of 1½ cents per gallon on all crude petroleum produced from wells in Canada was authorized from June 8, 1904. The governor in council is authorized to pay a bounty for the manufacture of binder twine in Canada, such bounty to be equal to the amount paid as export duty in the Philippine Islands on manila fiber produced in those islands, and used in the manufacture of binder twine in Canada, provided the bounty shall not exceed three-eighths of a cent per pound on the manila fiber used in the manufacture of binder twine. The same applies to the manufacture of cordage in Canada from manila fiber.

WIDOWS' PENSIONS IN AUSTRALIA.

NEW SCALE OF WEEKLY ALLOWANCES IN FORCE IN QUEENSLAND.

In stating that the Australian State of Queensland in 1879 began a system of subsidizing widows in the care of their children, Consular Agent Asbury Caldwell, of Brisbane, writes of its further development:

The idea has steadily grown, and it has been found wiser for the State to pension the mother for the care of her children than to condemn her to such employment which would cause her to neglect the children. The following new scale of weekly allowances was authorized by the recent parliament to take effect May 1, 1908: For one child, $1.22; two children, $1.10 each; three children, 97 cents each; four children, 91 cents each; more than four children, a maximum of $4.38.

COFFEE VALORIZATION IN BRAZIL.

STATEMENT OF THE OUTGOING PRESIDENT OF SÃO PAULO.

The following information concerning the official résumé of the financial situation of the coffee valorization project is furnished by Consul-General George E. Anderson, of Rio de Janeiro:

The parting message of the outgoing President of the State of São Paulo contained an official résumé of the financial situation of the coffee valorization project at the end of the first year of its operation. He said:

The Government has met the expenses incurred in the defense of the coffee industry from the following sources:

	Rs.
Treasury bills	16,060,422$890
Loan of £1,000,000, Brasilianische Bank Fur D	15,483,000$000
Loan of £3,000,000, Henry Schroeder & Co., of London, and National City Bank of New York	46,449,000$000
Bill for loan of £3,000,000 contracted with Federal Government	48,000,000$000
Total	125,992,422$890
Bills on agents abroad for coffee consignments	184,045,271$206
Total loans made	310,037,694$096
From the loans deduct:	
Redemption on loan of £1,000,000, Brisilan Bank	15,483,000$000
Value of coffee purchased, according to accounts	270,578,554$948
Net total	286,061,554$948

The balance is in the hands of agents abroad for the service of loans, revision of contracts, etc., to be classified definitely when all accounts are to hand.

This statement means, in American money at present exchange, that the Government up to the time covered by it had borrowed for the valorization project Rs. 125,992,422$890, or $37,797,726, on special loans for the purpose, and Rs. 184,045,271$206, or $55,213,571, as loans based upon the coffee bought with the first sum as collateral. The total sum borrowed, therefore, was at that time $93,011,292, according to this statement. The amount expended included Rs. 13,483,000$000, or $4,644,900, for loan repaid, and Rs. 270,578,554$948, or $71,173,566, for the purchase of coffee. This leaves a balance of $17,192,826 for premium on loans, the payment of interest, and other expenses of the enterprise.

This statement is not complete, however, for it takes no notice of the 3-franc surtax on exports of coffee on which the entire enterprise is based. The paragraph relating to this is as follows:

In addition to the revenue proper the treasury collected from the 1st of December, 1906, to the 31st of December, 1907, a tax of 3 francs on each bag of coffee exported, amounting altogether to francs 36,852,203.61, or Rs. 23,247,039$979 ($7,112,475), specially marked for the defense of the coffee industry. All the expenses incurred in defense of coffee, such as interest, commissions, difference between the par value and rate sold of the external loans, publications, traveling expenses, etc., come from this tax and amount to Rs. 21,127,729$ ($6,388,318).

The actual income for the valorization enterprise, therefore, amounted to that time to a trifle over $100,100,000 American gold, and the balance, on the face of the account, amounts to over

$18,000,000. Current accounts and charges would, of course, reduce this balance greatly.

According to the figures given the present charge for interest on the loans made, including renewal commissions only, amounts substantially to the income from the 3-franc surtax during the year of the great crop.

The President's statement gives the amount of coffee held by the State Government as follows:

> The State is owner of 7,700,000 bags of coffee stored in Europe and North America and 657,500 bags stored in Santos. The coffee abroad is stored in Havre, Hamburg, Bremen, Antwerp, London, Trieste, Marseille, New York, and New Orleans. The inspector for the Government has reported that the coffee stored in Europe is in excellent condition, and has forwarded photographs to the Government in proof of his statement.

ONTARIO GAME LAWS.

CANADIAN PROVINCIAL REGULATIONS IN A RICH HUNTING REGION.

Consul A. G. Seyfert, of Owen Sound, sends the following review of the hunting and fishing regulations of the Canadian Province of Ontario:

The highlands of Ontario include the famous Muskoka Lake district east of the Georgian Bay, where game and fish are abundant. Every season many American sportsmen go there to fish and shoot. The open season for deer lasts but fifteen days, yet last fall during that period 12,500 deer were killed, which is sufficient evidence of the abundance of game in this region. The Ontario fish laws make the open season for bass and muscalonge from June 16 to April 14; pickerel or dore, May 16 to April 14; salmon trout, December 1 to October 31; speckled trout, May 1 to September 14.

The law also provides that each person may not catch or kill in one day more than 8 black bass or gree, which must be over 10 inches in length; 12 pickerel, which must be over 15 inches in length; 4 lake trout, or 30 brook trout, which must be over 6 inches in length. Not more than 25 pounds of trout can be shipped by one person during the season. Sportsmen from the United States are not charged any license for fishing in Canadian waters when Canadian boats and guides are employed.

The open season for hunting deer, moose, reindeer, and caribou is from November 1 to November 15; for bear, all the year; for duck from September 1 to December 31; for grouse, pheasants, partridge, woodcock, and railplover from September 15 to December 15. The license for a nonresident to hunt deer, moose, reindeer, or caribou is $50 for a season and $25 for smaller game. With each license are given two coupons, one of which must be attached to each deer killed when shipment is made. Not more than two deer, one bull moose, reindeer, or caribou are allowed to be killed by each hunter during the season. Persons visiting Canada for hunting or fishing may bring with them outfits comprising guns, fishing rods, canoes, tents, camp equipments, cooking utensils, etc., by depositing the duty on the appraised value of the articles imported with the Canadian collector of customs at the port of arrival, which deposit will be returned in full provided the articles are all exported from Canada within six months.

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COEDUCATION IN GERMANY.

GRAND DUCHY OF BADEN MAKES SUCCESSFUL EXPERIMENTS.

Consul H. J. Dunlap, writing from Cologne, has the following to say of the progress of coeducation of the sexes in public schools in Germany:

Up to within perhaps ten years no practical test of the possibility of coeducation had been made, but recently the school authorities in the Grand Duchy of Baden have made a trial of its possibilities, and the experiment is looked upon with considerable interest by the school authorities in other parts of the Empire. From a recent official report the Cologne Gazette makes the following deductions, showing to what extent the female sex has entered the gymnasiums, "real" and other "middle" schools of Baden, in order that they may obtain a higher education:

While the number of girls who attended the boys' schools in the school year 1901–2 was only 426, this number has increased threefold during the past school year. Therefore the opinion of the higher school officials excites the greatest interest about the coeducation of the sexes in the higher schools of the dukedom. In the last number of the official school report the chairman of the board of school directors of the Grand Duchy makes a very favorable report on the conditions since the admission of the girls to the boys' middle schools. All of the school principals admit the capability of the girls and their ability to comply with the courses of study, and in many cases the greater diligence and intelligent interest of the girls in many special subjects was observable; besides their presence in the classes exerted a very favorable influence on the conduct of the boys. An excellent effect was noted in the behavior and appearance of the male pupils caused by the girls' greater punctuality, order, conscientiousness, and attention, as well as the natural refinement of the sex. There had been no breaks in the discipline noted and nowhere had the morals of the pupils been in any way endangered through the intermingling of the sexes in the school room.

Although the report of the Baden authorities has been favorable to the bringing into closer connection in matters of education of the sexes, it is not apparent anywhere outside of Baden that any progress has been made toward admitting girls to the same school with boys or even to give them the same courses of study.

WOMEN IN UNIVERSITIES.

QUESTION STILL UNSETTLED—PRESENT RIGHTS AND PRIVILEGES.

Consul Thomas H. Norton, writing from Chemnitz, says that the question of admitting women to equal rights with men in the privileges of the German universities is still far from being generally settled. He adds:

The universities in Saxony and in the southern half of the Empire—Bavaria, Baden, and Wurttemberg—have all opened their doors to female students, and granted them all academic rights, matriculation, graduation, etc. Others admit them only as visitors to lectures, but refuse to them all other privileges. The University of Berlin has adopted a compromise, refusing matriculation to women, but allowing them to attend courses of study as visitors, and also, with the approval of their instructors, to present themselves as candidates for the examinations leading to the doctor's degree.

During the past winter the 21 German universities enrolled 320 matriculated women, and 2,504 female visitors. There was an in-

crease over the preceding winter of 35 matriculates and of 399 visitors. The matriculates were divided among the 8 universities, where they are allowed entrance, as follows: Munich 125, Heidelberg 65, Freiburg 53, Leipzig 36, Jena 20, Tubingen 9, Würzburg 8, Erlangen 4.

BRITISH CORPORATION LAWS.

HOW THEY AFFECT COMPANIES INCORPORATED IN OTHER COUNTRIES.

Vice-Consul-General Richard Westacott, of London, transmits a copy of the British Companies Act of 1907, a portion of which is of interest to Americans on account of the provisions relating to registration and reports covering specified features of operations on the part of foreign corporations. Following is a summary of that section of the act which relates to foreign companies doing business within the United Kingdom:

In August, 1907, the British Parliament passed an act, operative July 1, 1908, amendatory to the United Kingdom's laws relating to companies and corporations, both private and public. The act provides for careful supervision by the Government over public companies for the purpose of requiring compliance on the part of companies' officers with regulations that will enable stockholders and prospective purchasers of stock to obtain legitimate and necessary information of the financial status of a company. The following provisions of the act apply to companies incorporated outside the United Kingdom but doing business within the Kingdom:

Every company incorporated outside the United Kingdom which at the commencement of this act has a place of business in the United Kingdom, and every such company which after the commencement of this act establishes such a place of business, shall within three months from the commencement of this act, or within one month from the establishment of such place of business, file with the registrar a certified copy of the charter, statutes, or articles of association of the company, a list of the directors, the names and addresses of one or more persons resident in the United Kingdom authorized to accept on behalf of the company service of process and any notices required to be served on the company. Companies must notify the registrar of any changes in the charter or articles of association, the change of directors, or change of address of persons on whom process may be served.

COMPANY TO ADVERTISE COUNTRY IN WHICH IT IS INCORPORATED.

Foreign incorporated companies shall file once each year with the registrar such a statement of their affairs as would be required under this act if they were incorporated within the United Kingdom.

A "limited" company issuing a prospectus soliciting subscriptions within the United Kingdom for shares of its stock must state in the prospectus the country in which it is incorporated. The name of the company and the country in which it is incorporated must be conspicuously exhibited at the place of business and printed on the stationery used by the company. Failure to comply with these provisions will subject the company to a fine of £50 (£1=$4.86) and £5 a day until compliance is made.

INTERNATIONAL TELEGRAPHIC UNION.

WORLD CONVENTION AT LISBON—AMERICAN PARTICIPATION.

Special Agent Roland R. Dennis and Mr. Charles Page Bryan, American minister to Portugal, representatives to the Tenth Conference of the International Telegraphic Union, held at Lisbon in May, 1908, transmit the following report on the organization and work of the Union:

The International Telegraphic Union was organized at Paris in 1865. In all 46 countries are members, each with one vote in conference deliberations, although as many as five delegates from one country may attend a conference. A central bureau of information is maintained at Berne under the control of the Swiss Government. This bureau, besides issuing publications for its members, examines requests for modifications of tariffs or rules of service, and promulgates all changes adopted. Modifications of rates or tariffs which any member desires made must be submitted to the bureau at least six months before the date of the conference, in order that the bureau may notify all members of the proposed change.

Modifications adopted by a conference are operative only after they have been approved by all the members. However, any two or more members of the Union may make regulations, which shall apply only to themselves.

The United States, Canada, Mexico, and China are the only important countries that do not belong to the Union. Although not holding a membership, the United States has been regularly invited to send delegates to the conferences, who are permitted to participate in the discussions, but have no vote.

DEPENDENT ON GOOD OFFICES OF FOREIGNERS.

Notwithstanding the great amount of American capital invested in submarine cables, the cable companies must depend on the good offices of some foreign country for representation in the conference. The result is that the business interests of the cable companies are secondary to the interests of the telegraph department of the foreign countries.

The conference recommended certain changes in the codes used by the Union. Our representatives were, however, assured that American codes now in use would not be affected by the adoption of the suggested alterations.

The more progressive European officials at the conference, while admitting American superiority in modern methods, believe that cooperation on our part in the work of the Telegraphic Union would result in the introduction throughout the world of the best features of the American system. This conference, however, is practically a unit in regarding our 10-word message rate, with address and signature gratis, as cumbersome and inequitable. Notwithstanding existing differences, a formal invitation has been extended through the British minister resident at Washington to the United States to become a member of the Union. The Government of the United States, not owning the telegraph lines of the country, was not in position to accept the invitation. In order for the American telegraph companies to become members of the Union they will be required to adhere to the regulations of the International Telegraphic Union. The nonvoting delegates to the conference from China have strongly *urged their* Government to join the Union.

USE OF THE TELEGRAPH.

EXTENT OF DEVELOPMENT IN VARIOUS LEADING COUNTRIES.

From statistics made public by the German Government, Consul George A. Bucklin, jr., of Glauchau, has compiled the following data comparing the extent and cost of telegraph service in the various countries of greatest importance in the year 1906:

The United Kingdom leads in the number of messages sent—94,000,000; the United States have, however, the greatest number of miles of line—1,155,480; France has the lowest average cost of message—12 cents.

	Number of messages in millions.	Average cost per message.	Total receipts.	Miles of line.	Average income per mile.
United States	65.5	$0.42	$27,985,000	1,155,480	$24.20
United Kingdom	94	.16	15,247,000	384,109	39.69
France	58	.12	7,334,000	389,002	18.82
Germany	52.5	.15	8,299,000	458,358	10.10
Austria	19	.14	2,702,000	133,549	20.22
Italy	16	.21	3,472,000	128,582	27.00
Spain	5	.32	1,640,500	47,923	34.23

Statistics of Russia, Japan, and other countries are incomplete. The service rendered by the German telegraph system is excellent. The charges are 50 pfennigs (11.9 cents) on messages of 10 words or under to any part of Germany. For each additional word 5 pfennigs (1.19 cents) are charged. Thus 13 words were paid for in the average message in Germany in 1906. The German system is owned and operated by the State in connection with the post.

AUSTRALIAN STATE INSURANCE.

PROVISION BEING MADE FOR SAFEGUARDING WORKINGMEN'S HOMES.

Consul-General John P. Bray, of Melbourne, reports that the government of the Australian State of Victoria is about to undertake the experiment of State insurance in connection with the houses of settlers, which the government has erected on a scheme by which repayments by the occupants are extended over long periods.

It is estimated that the settlers will have to pay to the government for the State insurance of the houses what is equal to an annual premium of not much more than one-fourth per cent upon the value of the property, whereas if companies did the insuring the men would—according to departmental estimates—have to pay at the rate of between one-half per cent and 1 per cent. The government has already accepted the responsibility for the 250 houses which have either been erected or are being built. The houses are wooden, and many of them are situated in localities where the fire-fighting machinery is not of the most modern type. The companies offered to insure the places at premiums varying from $2.55 to $4.25, allowing 10 per cent discount. This would have cost the 250 settlers the price of about two houses a year.

The government programme provides for the building of 500 new houses within the next two years. This will bring the total number up to 750 houses. According to the departmental estimates, if the

government were to accept the insurance companies' terms it would cover the cost of six houses a year in insuring this number. The government hopes instead to charge the settlers less than would the companies, yet establish a substantial fund from which to meet all losses.

MANNHEIM TRADE HIGH SCHOOL.

FIRST OF SUCH TECHNICAL INSTITUTIONS FOR SOUTHERN GERMANY.

Consul Samuel H. Shank furnishes the following information concerning the Trade High School opened in Mannheim on May 1, 1908:

The object of the school, which is under the direction of the minister of justice and public instruction of the Duchy of Baden, is to provide instruction in political economy, sociology, and agricultural science as they are related to trade and manufacturing industries. To this end it offers courses of instruction to young people desiring to engage in business pursuits; to those already engaged in business special scientific instruction along various lines; and to officials and professional men an opportunity to acquire a business education both theoretical and practical. The subjects taught are as follows: (1) Production and trade—hunting, hunting laws, and fur trade, inland and sea fisheries and trade in fishery products, forestry and lumber trade, stock raising, meat, dairy products, trade in stock, wool, hides, leather, farming and grain production, grain trade, agricultural by-products and distilling, plantations and sugar and cotton trade; (2) mining and metal industries; (3) international economy and colonial politics; (4) banks and banking; (5) science of finance; (6) life insurance; (7) protection of laborers.

Special lectures will be given on state and private railway systems; the economical workings of railways and railway traffic; fundamental principles of political economy; securities; exchange and settlement of accounts, etc.

The hours of instruction are mostly in the evening, as the school is intended to provide an education for those who can not devote their whole time thereto.

The course consists of four terms of six months each. The admission fee is $4.76 and an additional fee of $28.56 for each term to those taking the full course of instruction. These costs are increased 50 per cent for foreigners who desire to attend. Cards for attendance at lectures may be had for $1.19 for courses having lectures one hour a week, $2.14 for those of two hours a week, $2.85 for three hours, $3.57 for four hours, and $4.76 for five hours. A reduction is made to members of unions in Mannheim and vicinity. The school is supported by the city of Mannheim.

The students at this school have the privilege of attending the lectures at the University of Heidelberg, which can be reached by train in twenty minutes.

WORLD PROGRESS.

UTILIZATION OF RESOURCES.

HOKKAIDO.

TIMBER, MINERAL, AND AGRICULTURAL RESOURCES OF THE ISLAND.

The following report is the result of a personal investigation made recently by Consul-General Henry B. Miller, of Yokohama, during a trip to the Japanese island of Hokkaido:

The island of Yezo or Hokkaido is the richest in variety of undeveloped resources of any part of the possessions of Japan. Its area is more than 30,000 square miles and its coast 1,600 miles, exclusive of the various dependent islands, which have an area of 6,200 square miles. Hokkaido is the second largest island in Japan. Its population in 1905 was 1,192,394.

The island is specially rich in timber, coal, sulphur, fishery, agricultural, and horticultural possibilities. Petroleum is worked in several localities, but is considered not possible for extensive development.

EXTENT OF FORESTS.

At the end of the year 1905 there were over 5,864,000 cho (about 14,370,000 acres) of forests in Hokkaido, classified as follows, in acres: State forestry, 11,930,000; crown forestry, 1,517,000; forestry reserved for schools, 186,000; model forestry under control of municipalities, 505,000; owned by public institutions, private corporations, or individuals, 98,000; land leased for forestry purposes but not yet developed, 127,000.

The above area covers about 68 per cent of the total area of Hokkaido (exclusive of the Kurile archipelago) or about 23.8 per cent of the total forest area of the Empire (Sakhalin, Riu Kiu, and Formosa excepted).

Of the trees mostly utilized are pines, white willow, various kinds of oak, walnut, etc. The pines are used for building and as material for manufacturing pulp, white willows for match sticks, supplying the greater part of the total consumption in Japan; walnut for manufacturing articles used by the army department, and oak and several other woods for lumber, railway sleepers, firewood, and for making charcoal.

A large tanning concern in Tokyo established in 1903 a tannic acid factory in Hayaki and from oak bark are manufacturing tannic acid.

White willow, red pine, and some others are used for manufacturing chip braids. Charcoal and native "crogs" consume a large quantity of the forest products.

The deciduous forests cover more than half the total forests of the Hokkaido, and they are everywhere to be found. The total forest

products of Hokkaido in 1905 were valued at $1,512,649, timber and lumber constituting nearly one-half of this amount; willows for match sticks, and railway sleepers being the next in value.

The hard woods are now being exported to China, Australia, Mexico, and the United States, mostly for ties. Negotiations are under way for contracts for these hard-wood ties to be delivered on the Atlantic coast of the United States. Many of these hard woods are particularly handsome and valuable for furniture and for house furnishing, especially the oak, curly ash, bird's-eye maple, etc. Exports of lumber to the United States from Hokkaido in 1906 amounted to $166,601, while in 1907 they amounted to $269,686.

The bulk of the shipments of timber is in the form of ties hewn and sawed and logs hewn and slabbed. Considerable amounts of hard wood have been shipped for furnishing purposes, car building, etc., to San Francisco, Portland, and Seattle.

At present there is little grading or classification, as most of it is sold in the form of logs, trees, and railway sleepers. The defects of this method will no doubt soon be noticed, sawmills will be built, and the lumber will be carefully graded, and only the finer grades shipped to foreign markets requiring expensive freight charges. Planing mills, dry kilns, and wood-working machinery will be in demand there as well as logging, railroads, and appliances.

As yet sawmills are very few, only 21 throughout the island, of which all but three are worked on a small scale by private individuals. Planing mills are almost unknown.

MINERAL PRODUCTION.

The development of mining in Hokkaido has lately made great progress and bids fair to make still further advance. The amount of mineral production in 1895 was only $1,280,000, while in 1905 it amounted to $3,922,000. Coal mining made a special advance from 453,959 tons in 1895 to 1,177,511 in 1905.

The minerals produced amount to about $4,000,000 per annum, which is less than one-third of that of Kiushiu, but the future production is expected to be exceedingly prosperous, as the field is rich and a large tract of possible mining districts is yet unprospected or unexplored. Coal is the most important mineral product, followed by sulphur, gold, and silver, in the order named, while others are insignificant. The following table shows the value of the mineral production in various recent years:

Year.	Coal.	Sulphur.	Gold and silver.	Manganese.	Alluvial gold.	Total.
1897	$1,850,711	$4,750	.....	$21,140	$26,873	$1,903,542
1898	2,204,141	118,415	$121,681	15,625	25,493	2,485,696
1901	2,625,890	78,498	93,108	14,681	505,404	3,317,713
1905	3,529,718	194,829	134,298	4,435	59,026	3,922,306
1906	3,549,844	240,903	68,749	15,865	40,713	3,960,996

The coal generally mined in the island is superior in quality to that of other districts of Japan, especially for steamship purposes, and many ships coming from the Pacific coast of the United States call at the port of Muroran for coal. The coal brought to Muroran by rail is particularly fine for cooking, and the coal mines in the vicinity formed the foundation for the great Muroran steel and iron industry which is being established by a combination of the British and

Japanese capitalists. According to the report of a specialist who examined the four principal coal mines (Ishikari, Amashio, Soya, and Kushiro) it is stated that the strata are often more than 20 feet in some mines, and that the total amount of underlying coal in these four mines is at least 600,000,000 tons.

There was shipped from Hokkaido to the United States sulphur to the value of $326,725 in 1906 and $329,201 in 1907.

AGRICULTURAL PROGRESS.

While the great wealth of Hokkaido to-day is in fishery, forestry, and mining eventually its fundamental resource will be agriculture. There were in 1905 only 889,495 acres under cultivation, the product from which was valued at $11,000,000. This acreage comprises only about 5 per cent of the total area of the island. It is estimated, however, that 3,000,000 acres are capable of producing crops to the value of $43,000,000 per year, when the agricultural resources are properly developed. This estimate appears to me to be altogether too small, and probably covers only the richer valley sections. The uplands, hillsides, and mountain bases now covered with timber will undoubtedly before many years be producing fruits, nuts, vegetables, grains, and grasses.

The larger part of the island is capable of producing all kinds of grain equal to the best grain-growing sections of other countries. The island is especially suitable for the production of vegetables, and is beyond doubt the best beet-producing part of Japan. Considerable quantities are grown here and shipped to various places in the Orient. Quite an extensive trade is carried on with the Philippine Islands in beets.

It is a great field for exploitation and development, and the policy of the government is most generous with settlers in the distribution of lands. The winters are rather severe, but the ground is seldom frozen, as it is covered with snow from the middle of November to the middle of March. Irrigation is not necessary, as there is an abundance of rain during the growing season of crops.

FRUITS AND SERICULTURE.

One of the most successful agricultural developments is in the line of horticulture. Strawberries, blackberries, and all similar types of berries grow to perfection. Apples, pears, peaches, plums, cherries, and grapes are grown successfully. Fruit canning is being developed, and this will, no doubt, be one of the most substantial industries of the future, as so many varieties of fruits and berries are rapidly being produced abundantly.

The climate of Hokkaido is favorable to silkworm rearing, as the worms are generally free from disease, and mulberry trees grow naturally. The extent of the most suitable ground for sericulture is reckoned as 8,400 square miles, from which 2,250,000 bushels of cocoons should be raised in the near future. Several undertakings as to sericulture have been established by the Government, such as mulberry gardens, silkworm-breeding places, and training institutes, where all necessary enterprises of the industry have been undertaken.

Lectures are given in different localities, where sericultural schools are commenced in winter time, utilizing the leisure of farmers, and in spring, summer, and autumn silkworm breeding is carried on practically.

THE GROWING COMMERCE.

There are three ports in Hokkaido at which foreign vessels call to deliver foreign products and take away the exports. Hakodate is the oldest port, and for many years was the only port of call for foreign ships. Otaru, on the west coast of the island, in recent years has developed into an extensive port both for imports and exports. It is the nearest to the large forests and is the principal place for exporting lumber and timber. Good coal is found in the vicinity and is delivered at the port at reasonable rates. An extensive breakwater as a harbor protection has been built, and the port seems to be becoming very popular. It is one of the most prosperous appearing cities in Japan, and without question will continue to be the leading place for exports.

Muroran has recently grown into considerable importance because of the establishment of large iron and steel works under a combination of British and Japanese capital. These works are now in process of construction and will undoubtedly make the port a valuable and progressive one. Its main value lies in large and substantial coal fields in the vicinity. It has not the advantage of an important agricultural and timber country surrounding it like that in the vicinity of Otaru.

The entire foreign trade of Hokkaido through these three ports amounted to $20,500,000 in 1895, but had grown to $46,000,000 in 1903. The foreign trade is carried on mostly with China and Asiatic Russia, and there is every prospect of a continuation of the growth of trade between the island and these countries. There is also quite a growing trade with the United States, especially in the export of silver and timber, the hard woods of the island finding an excellent market on the Pacific coast. There is a growing importation of American kerosene and flour.

The imports of petroleum, flour, and railway materials from the United States in 1905 amounted to $461,462, principally into Hakodate, out of a total import from all foreign countries of $562,893, the imports from the United Kingdom and colonies amounting to only $62,731, and from Russia to only $32,428.

TRADE WITH THE MAINLAND.

This trade is increasing year by year, and is growing, especially in agricultural products. The principal exports to the mainland are marine products and constitute half of the total exports; agricultural, mineral, and forest products make up the remainder. The articles imported to the island from the mainland consist principally of rice, cloth, sake, tobacco, sugar, fish nets, and straw mats. The total trade with the mainland in 1905 was as follows: Imports $22,213,553, exports $20,065,395, made up of the following products:

Products.	Imports.	Exports.
Agricultural	$8,483,832	$4,153,429
Marine	553,279	10,267,776
Industrial	10,392,916	1,951,065
Mineral	460,264	1,978,273
Forest	18,279	297,530
Other	2,304,983	1,417,322
Total	22,213,553	20,065,395

AID TO FISHERIES.

The total length of the coast, including the Kurile Islands, is 3,306 miles, which is more than one-fifth that of the mainland. The marine products during recent years have been about one-fourth that of the mainland, and have reached the sum of $6,500,000.

Representatives of the island are now in foreign countries studying methods of artificial propagation of salmon and trout. The Government of the island furnishes a small subsidy for teaching the marine industry. Two schools have been established for theoretical and practical instructions relating thereto. The Government has also sent out special lecturers touring the country giving instructions to fishermen and their children in practical and theoretical work. Artificial hatcheries for salmon and trout, which number eighteen, were first established in 1877.

The value of sea products in 1906 was as follows: Herring, $3,152,836; salmon, $393,727; trout, $145,380; sardines, $139,189; codfish, $171,157; cuttlefish, $227,627; seaweed, $442,775; all other, $512,055; total, $5,184,746.

GROWTH OF INDUSTRIES.

The Government being anxious for the promotion of industries, undertook the development of several enterprises, such as breweries, sake manufactures, sugar, oil, paper, flour, wood and iron works, and canning of fruits and vegetables. From these undertakings thirty factories of various kinds were sold to private persons in 1883, and the Government guaranteed 5 per cent interest per annum for six years. The result of this development was a production of manufactured goods in 1895 to the value of $4,932,000. Wood-pulp and paper industries are developing extensively, and because of the vast supply are likely to become permanent and extensive productions. Hops and barley are grown to perfection on the island, and the brewing industry is prosperous. Flax and hemp are grown successfully, and a large linen factory at Sapporo is in successful operation. The following is a list of the leading productions of the island for 1906: Sake, $1,585,658; alcohol, $387,219; beer, $319,308; soy, $354,102; miso, $159,579; flour, $112,780; potato powder, $130,505; peppermint, $185,490; matches, $702,327; canned provisions, $134,416; textiles, $157,197; hemp and flax, $199,818; silk, $70,287; wood pulp, $84,738; tiles and brick, $75,453; cement, $328,516; machines, $316,899; iodine, 63,126. The total industrial productions amounted to $5,901,104.

LINES OF COMMUNICATION.

The railways of Hokkaido are now all under the control of the General Government. The Tanko Railway, built by private capital, running north from Muroran 200 miles, was completed in 1892 under a subsidy agreement of the Government guaranteeing 5 per cent per annum on the paid-up capital, with the understanding that the company was not to charge intending settlers on the island anything for their passage or goods to their settlements. The Hokkaido Railway, 159 miles, built from Hakodate to Otaru, was completed in 1905. The Government Railway between Sorachi and Asahigawa was completed in 1898. The line was extended in 1903 north to Nayori, and it is intended to further extend it clear to the northern point of the

island. Another line from Asahigawa at Kushiro was completed in 1907. The total length of the Government lines at the end of 1907 was 648 miles, and construction is still going on. All these railways have a traffic of freight far beyond their capacity. The island is a rich field for the extension and development of transportation facilities, and as the country is further developed and settlements increased additions to the railways will be constantly required for years to come.

There are numerous harbors about the island capable of navigation for minor craft, and two of the large steamship companies of Japan operate many steamers entering the principal ports of the island. New steamship service has been recently established between the railway terminus of Aomori on the mainland and Hakodate, by which the time across the straits is reduced from seven to three hours. The tonnage of vessels entering the ports of Hokkaido in 1906 was as follows: Foreign vessels, 1,242,200; Japanese vessels, 2,177,900; total, 3,420,100 tons.

There are 2,435 miles of telegraph lines, 974 miles of marine cable, 149 telegraph offices, 349 post-offices, and 3,570 miles of telephone lines in the island.

FRANCE.

COMMERCE, CONSTRUCTION WORK, AND RESORTS OF LOWER PYRENEES.

Consular Agent Frederic E. Gibert, of Biarritz, has prepared the following interesting account of the present commercial situation and development in the French Department of Basses-Pyrenees:

The Department of the Lower (Basses) Pyrenees, with a population of 424,446, possesses the only seaport on the French Atlantic coast between the city of Bordeaux and the Spanish frontier. This seaport of Bayonne is one of the oldest towns and ports in the country, and is from an archaeological standpoint of great interest. As a commercial center it takes nearly all the export trade of the western Pyrenean district, some going through Bordeaux. This trade increases steadily, having risen from 80,000 tons in 1848 to 795,320 tons in 1906.

Unfortunately Bayonne possesses no direct transport lines, except to England, Spain, and Belgium; merchandise for other countries is transshipped from the local lines or sent on by rail to Bordeaux or Havre, so that the main marine traffic is the coastwise carrying trade.

The port is now accessible for vessels of from 3,500 to 4,000 tons, drawing 20 to 25 feet, with length not exceeding 300 feet. Large sums are constantly being spent in improving the entrance, the docking and loading facilities, and the access by rail and water from the interior.

INDUSTRIES, AMERICAN TRADE, AND RAILWAY BUILDING.

Industrial interests comprise important factories at Boucau, a suburb of Bayonne on the Adour, and numerous mills, marble quarries, iron, coal, and copper deposits, and fisheries, from Bayonne to Hendaye.

Direct shipments to the United States from Bayonne have practically ceased since November, 1907. During 1907 a considerable quantity of ferro-manganese and a large amount of Pyrenean wool were *ported* to New York, Boston, and Philadelphia. There arrived

from the United States during the eighteen months ended July 1, 1908, only seven vessels—all British—bearing the usual cargoes of grain, phosphates, and Georgia pine.

A certain interest is presented to American manufacturers by the construction, in progress and projected, of an unusual number of steam and electric railway and tramway lines. Of the former there are at least ten on the point of being begun; of the later perhaps half as many. The most important is that designed to connect Biarritz with Bayonne by a new route, there being already two steam connections, and then continue down the coast some 20 miles, joining the Spanish line to San Sebastian and Bilbao, thereby opening up building sites of great value and a country rich in opportunities.

INCREASING TOURIST TRAFFIC MAKES ACTIVITY.

Tourists within the last three years have come to know the great number of winter and summer resorts which exist in the region. These, with the exception of Pau, have been hitherto almost unknown to Americans. A great effort is being made on all sides to meet modern requirements, those of a constantly changing and an increasing cosmopolitan wave of population. At Biarritz during 1907 there were registered more than 35,000 visitors. Reckoning on another 20,000 for Pau, and allowing for those at other places, it may be safely said that 100,000 persons visit the department in the course of the year. During the season, which continues eight months of the year, there are between 300 and 400 automobiles; at Pau during the winter nearly as many. Besides a dozen large hotels in existence for the past twenty years, there was built in 1904 one costing nearly $1,000,000, another costing about $500,000, and four smaller ones costing from $100,000 to $300,000. Ground is now being broken for two others to cost respectively $1,000,000 and about $800,000. The building activity at Biarritz may be taken as an example of what is going on all over the department.

American residents probably consist of 100 families, but transient Americans on their way to and from Spain and the Pyrenees are very numerous and steadily increasing. The entire district of the middle and the western Pyrenees may be considered as now undergoing a lively transition to the conditions and requirements of the present day.

GERMAN NEW GUINEA.

DEVELOPMENT BY IMPERIAL GOVERNMENT—RESOURCES OF ISLAND.

Vice-Consul Ernest Vollmer, of Tsingtau, translates the following from German colonial journals in regard to the development of the German portion of the island of Papua or New Guinea:

The budget for German New Guinea for 1909, which has just been submitted to Berlin, gives the expenses at 2,000,000 marks (mark=23.8 cents) and income at 500,000 marks, leaving a deficit of 1,500,000 marks to be allowed by the Reichstag. The estimated income shows an increase of some 25 per cent over last year, due to the new 10 per cent ad valorem duty on all imports. Copra is the main export, but has fallen so much in value lately that it is claimed the import duty will greatly affect all commercial interests. In view of these facts it now seems that the Government will find it necessary to remit the

duty temporarily on all agricultural implements and machinery needed for the development of the colony, as well as on the leading foodstuffs imported.

The German Colonial Society, with the assistance of those interested in industries where rubber is used and the Imperial Government, has promoted an expedition to proceed to New Guinea in order to investigate the possibilities which that island may offer for the cultivation of gutta-percha. The route of the expedition covers all the German part of the island. The main object is to introduce a system for the collection of gutta-percha and rubber, and obtain the assistance of the native population in this collection. To date the success has been rather doubtful, the article not being generally met with in commercial quantities. In all some 2½ tons of rubber of varying grades have been obtained.

Prospectors from British New Guinea have come into the German portion of the island, where they have made locations of placer gold. The deposits are now being worked in a number of the river valleys, but exact returns of the yield are not to hand at present. Steps are being taken by the German authorities to regulate mining matters.

SUMATRA.

PROVINCE OF JAMBIE TO BE THROWN OPEN FOR DEVELOPMENT.

According to Vice-Consul-General George E. Chamberlin, of Singapore, Jambie, a province of South Sumatra, formerly closed to private enterprise, is coming more and more into notice in Holland, to which he adds:

The Government means to throw the country open, and is making inquiries as to the best way of doing so. It is intended to draw up the concessions so strictly that the concessionaries will be obliged to work the oil fields effectively. They will not be allowed to hold the oil fields in reserve, this stipulation being aimed at attempts to start a monopoly. The concessionaries will be bound to pay duty on the oil they produce. Hitherto the petroleum companies have, so the Nieuws van den Dag remarks, protested against a petroleum tax, but it is understood that the Government means to make them pay the tax should they seek a foothold in Jambie, which they are almost sure to do.

TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

ARGENTINA.

NEW REGULATIONS GOVERNING CATTLE QUARANTINE.

Consul-General Alban G. Snyder transmits from Buenos Aires, under date of May 14, 1908, the following synopsis of a decree relative to imported cattle issued by the President of the Argentine Republic:

ART. 1. After the date fixed by Law No. 3959 and until new regulations on the subject have been adopted, the following regulations shall apply to imported cattle:

(*a*) Quarantine for thirty days in the port of the capital with necessary measures for isolation and care of the animals.

(*b*) For the diagnosis of tuberculosis the application of the ophthalmic reaction in the manner proposed by the director of the bacteriological institute or in any other form the cattle division may determine.

(*c*) Injection of tuberculine on the last day but one of the quarantine, or on the day preceding it.

(*d*) Slaughter and autopsy of those animals which become infected with tuberculosis after being submitted to the treatment stated in sections *b* and *c*.

(*e*) Transfer to the bacteriological institute in properly disinfected carts of those animals which develop suspicious symptoms during the quarantine under diagnosis.

(*f*) New examination of the animals in the said institute to establish the definite diagnosis and return to their owners of the sound animals and slaughter and autopsy of those having tuberculosis and recording names of their owners.

ART. 2. The provisions of the decree of January 29, 1903, inconsistent with this decree are repealed.

ART. 3. The cattle division shall adopt the measures of internal order necessary for fulfilling this decree and shall include its prescriptions in the new regulations for approval, previously fixing the notices referred to in article 13 of Law No. 3959.

BRAZIL.

ORIGIN AND BASIS OF THE PRESENT CUSTOMS LAWS.

Consul-General George E. Anderson, writing from Rio de Janeiro May 23, describes at length the tariff system of Brazil and its workings and effects upon the imports of goods from various countries, and particularly from the United Sta s. The consul-gen l says:

The tariff system of Brazil of t upon an act of the Congress of Brazil passed in of fact,

a system entirely different from the original act as a result of changes made from year to year in the annual budget or appropriation laws passed by the successive Congresses. In the law of 1900 a tariff schedule was established which contemplated the collection of duties as therein set forth on the basis of value for certain goods and of specific duty for other goods. The act was drawn much after the order of the tariff act of the United States then in force, except that the fact that Brazil's currency was at that time fluctuating in value between wide extremes led to a number of changes which were of vast and controlling importance.

In the first place, it was found that since the paper money value of the goods varied so much from day to day there was constant trouble over the amount of the duty collected from different importers for similar goods between short intervals, thus working a hardship to some importers to the benefit of others. For instance, one importer might enter a shipment of flour one day with exchange at 12 pence to the milreis, paying a percentage rate of duty on the same. His rival in business the next day might enter a similar lot having the same value at port of shipment, but by reason of exchange having gone down to 10 pence per milreis his percentage payment of duties would be much greater in paper money, the currency of the country. To avoid such fluctuation and unfairness, exchange was, for customs purposes, fixed at 12 pence to the milreis.

So long as exchange remained in the open money market at or below this rate such arbitrary fixing of exchange meant either no particular change in duties or a lowering of the duties to the extent of the actual lowering of the rate. When exchange rose, more or less permanently, above 12 pence (24 cents), however, the fixing of this rate caused, in effect, an actual increase in the amount of duty charged upon imports. At the present time, for instance, with exchange at 15 pence (30 cents), the valuation of foreign goods on a 12-pence basis means an increase in the milreis value of 25 per cent, and duties based upon value are therefore by this fixing of exchange increased 25 per cent.

PAYMENT OF DUTIES IN GOLD AND PAPER.

This fluctuation in exchange also led to another very important development in the Brazilian tariff system. Practically all the funded debt of Brazil is upon a gold basis. The charges for interest and sinking funds, where there are any such funds, are fixed charges in gold. So long as exchange was reasonably stationary, the duties based upon gold values, but paid in paper money, had practically a stable volume. When, however, the value of the paper milreis currency of the country decreased in its relation to gold it required more paper money to equal a given sum in gold, and the annual interest charges of the country to be paid abroad were just so much greater in paper money, in which duties were collected, while with the fixing of exchange for customs collections the amount collected from customs did not increase proportionately.

To remedy this evil the Brazilian Government conceived the plan of collecting a portion of the duties in gold, or, to be more accurate, in paper money to an amount which would equal a given portion of

the duties in gold according to the exchange of the day. Calculating that the portion of the country's income required for the settlement of its interest charges abroad was 25 per cent, the Government in 1900 established in its budget law the rule that 25 per cent of the duties should be collected in gold exchange, or "vales," on the basis of the par value of the milreis, 27 pence (54.6 cents), and 75 per cent in paper. In 1904 the proportion was raised to 35 per cent and in 1905 the tariff schedule was divided into two classes of goods, upon one of which 35 per cent was payable in gold and upon the other 50 per cent was payable in gold, the balance in each case being in paper. This system is now in force, and in practice it works out an average of almost doubling the import duties as fixed in the tariff schedule.

HOW DUTIES ARE CALCULATED.

Take, for instance, American barbed wire, on which the theoretical tariff rate is 150 reis per kilogram. A thousand reels of wire weigh 26,000 kilograms and at 150 reis per kilo the theoretical duty is Rs. 3:900$000, to which Rs. 10$000 must be added for the charge for statistical purposes. Of this Rs. 3:900$, 35 per cent, or Rs. 1:365$, is payable in gold and Rs. 2:545$ in paper. The sum of Rs. 1:365$ in gold plus 2 per cent of the value in gold, which is the charge on imports for port improvements and docks, amounts in gold at 27d. to Rs. 1:521$000, and in paper at 15d. this becomes Rs. 2:727$153. Add this to the amount, Rs. 2:545$, payable in paper and the total duties actually collected amount to Rs. 5:272$153. Where the proportion payable in gold is 50 per cent, the same method of calculation is followed, the increase being greater. Where a duty is ad valorem, the value of the goods is first fixed on the basis of 12d. to the milreis, and the duty, including the portion payable in gold exchange, is worked out on that valuation. Take as an example the great class of motors, engines, and the like, on which the theoretical duty is 15 per cent ad valorem. An engine valued at, say, $2,000 is entered; its value at 15d, the present actual exchange, is substantially (30 cents to the milreis) Rs. 6:666$. The value is calculated at the customs exchange of 12d., or about 24 cents to the milreis, and is thus fixed at Rs. 8:333$ instead of 6:666$. The duties work out as follows:

15 per cent of an evaluation of Rs. 8:333$ equals Rs. 1:249$950.	
35 per cent of the duty payable in gold, or Rs. 437$482, at $.546 per milreis, equals	$238.70
2 per cent ad valorem in gold, or Rs. 166$660, at $.546 per milreis, equals	91.00
65 per cent of the duty payable in paper, or Rs. 812$468, at $.30 per milreis, equals	243.74
Total duty	573.44

instead of $300 theoretically due on a valuation of $2,000, with a 15 per cent duty.

EFFECT ON PRICE QUOTATIONS.

In a large number of items the value is arbitrarily fixed in the tariff schedule and is above the actual value.

In other cases where the value of the goods is based on the invoice price, the latter is converted into Brazilian currency on a basis of 12d.

per milreis, which, taken with the proportion payable in gold, leaves little resemblance between the duties actually effective and those theoretically due on the basis of the theoretical rate or "Razão" fixed in the tariff schedule. The complicated nature of the calculations necessary for the determination of the duty to be paid in any case is the chief cause of trouble in the operation of the Brazilian tariff law, and this, with a number of other reasons, has made it almost a necessity, in which Brazilian importers have concurred, for foreigners selling goods to Brazilian customers to base their prices f. o. b. in the foreign port, leaving the matter of freights, and especially of duties, to be settled by the Brazilian importer.

The matter of freights has been complicated from time to time by custom-house stoppages or blockades which have prevented the prompt discharge of goods and which have led shipping companies to increase their rates for Rio de Janeiro. In the summer of 1906–7 the transatlantic companies serving the port increased their rates of freights 20 per cent for this reason.

CHARGES FOR PORT WORKS.

It will be noted that to all customs duties fixed by the tariff schedule and quoted above there has been added 2 per cent of the official value of the goods, valuing the goods on the basis of the 12d. rate, but charging the percentage in milreis at 27d. as a charge for port works. This charge was originally made only in Rio de Janeiro. The law authorizing the loan of some £8,000,000 for the construction of modern docks and approaches in the city, the fund which has been the basis for the immense public improvement enterprises carried on in the city and which will be added to by other loans, authorized the collection of 2 per cent ad valorem in gold on all goods brought into the port and paying duty, the sum thus produced to go to the payment of interest charges and amortization of the sum borrowed for the works.

Since this original authorization similar acts were passed covering port works at Manãos, Para, Bahia, Victoria, and Rio Grande do Sul, and in 1906 the budget law contained a blanket authorization for the collection of such 2 per cent duty in all of the ports of the Republic as a basis for port improvements in the port in which the sum is collected. While port works have not yet been undertaken in all of the ports, the imposition of the tax is practically universal and American exporters dealing with Brazilian imports may regard the tax as of universal application.

There is also imposed a tax of 10 reis per unit on all goods imported, which tax supports the statistical system of the exportation and importation of the country. While small in itself (about 0.3 of a cent), the tax in the aggregate is estimated this year at Rs. 350,000$, or $105,000.

UNITS OF QUANTITY IN THE TARIFF SCHEDULE.

In general the tariff schedule of Brazil is based upon units of the metric system, weights are in kilograms (2.2 pounds) or metric tons of 2,200 pounds; measures in liters; lengths in meters. For instance, customs returns for the year will show imports of locomotives or

engines of such and such a number of kilos or tons, the number not being given. Duties on kitchen utensils and articles of similar character, cotton goods, most metal goods, indeed most manufactured goods, are levied by weight, often without regard to the quality of the goods. The result is a number of apparent inequalities which admit goods of considerable value at comparatively low rates and do not admit goods of low value except at a high rate. Such inequalities are gradually being worked out of the system by increasing the number of items specified in the tariff schedule and by specifying rates upon several varieties and grades of goods in each class. Wood is imported by cubic meters, wines by the liter, most oils and similar goods by the kilo.

In importing goods packed in cases, bottles, or other means of conveyance the duty is assessed on packages either net or gross as specified in the schedule; in case the kind of weight is not specified it is assumed that the gross weight is to be assessed. It is often of great importance, therefore, that the nature of the packing be such as to weigh no more than the safety of the goods requires.

RATES OF DUTY UNDER THE BRAZILIAN TARIFF.

The outline of the Brazilian tariff thus given, indicating how it has been built up from year to year as needs of the moment required, has shown in a general way that the rates charged are high. How high the rates actually are, however, is not realized in the United States, and this fact has led to many misunderstandings of the business and trade situation in this country as regards American goods. The total imports of Brazil in 1907 amounted to Rs. 644,937:744$. The total amount of money actually collected as import duties was Rs. 368,387:663$, to which must be added a sum estimated at Rs. 10,000:000$, collected for port improvements (Rs. 5,147:107$ for Rio alone, figures for other ports not yet reported), or a total of Rs. 378,387:663$. The rate of duties actually collected on an average last year was, therefore, 58.66 per cent.

The minister of finance in his annual report for 1907 shows that goods not on the free list were admitted free of duty for Government account or for similar purposes to the amount of Rs. 164,202:601$, official value. Goods admitted free of duty as on the free list (coal, coke, and fuel almost altogether) amounted to substantially Rs. 35,000:000$. Accordingly, out of a total of Rs. 644,937:744$ imported, substantially Rs. 199,202:601$ was imported free of duty either for private account as on the free list, or for governmental or other purpose having duty exemption. The amount of duty collected, therefore, was actually collected on imports to the value of Rs. 445,735:143$, instead of on the total imports, and the average per cent actually charged on goods on which duty was paid was 84.89.

This rate does not, however, represent the actual rate of duty upon goods of common consumption, the amount of goods for special industries imported at a theoretical rate of 15 per cent, or an actual rate of about 25 per cent, being large enough to raise the rates actually felt by general importers to at least 95 per cent. Most of the imported goods of common use are taxed with a consumption tax after passing the customs, as for example, bottled goods, preserved food

products, shoes, millinery, and similar lines, a stamp tax being collected on the same regardless of their origin, before they can be sold in the country.

On some goods of common consumption the tariff duties run exceptionally high, and are high on all such items. According to a statement prepared by the Commercial Association of Rio de Janeiro, the importations of printed calicoes in the port of Rio from January to March, 1906, the last year for which figures in detail can be had as yet, were valued at Rs. 45,216$ f. o. b. in Rio de Janeiro, the duties collected on them being Rs. 67:701$, or about 150 per cent. The importations of shirtings during the same period amounted to Rs. 29:892$ f. o. b. Rio harbor, and the duties collected were 33:742$, or 118 per cent. The importations of cassimeres in the same period were valued f. o. b. here at Rs. 16:620$, and the duties collected were Rs. 23:730$, or 143 per cent. Such goods are now imported at substantially the same rates of duty. The duty on American hams, on an f. o. b. New York value of 12 cents per pound, on the basis of a theoretical rate of 1$200 a kilo amounts to 48.2 cents a kilo—22.9 cents per pound, or 191 per cent. The duty on American prunes, valued at 7 cents per pound, at the theoretical rate of 400 reis per kilo, amounts to 7.3 cents per pound, or 104 per cent. Such rates are typical of duties paid on goods of common consumption.

EFFECT ON CLASSES OF IMPORTS.

With import duties in Brazil as high as they are, there are several trade matters of importance to American exporters to consider. It is evident that with such high duties it pays to give particular attention to what can and what can not be imported to advantage under the customs law. In a report on cotton goods in Brazil from this consulate-general, published something over a year ago, it was shown that the cotton schedule specifications of the tariff act were so drawn as to make the duties exceptionally high upon standard grades of goods, and that the successful importers of cottons were those who studied the tariff act and had goods made to meet specifications which would come in under a lower rate in the schedule.

The same principle runs through most of Brazil's imports. It is difficult, for instance, to secure cloth for men's clothing of medium grade in Brazilian markets, because duties are so high on all but the cheapest grades that it does not pay to import any medium-grade mixtures. The duty on collars and cuffs is a specific duty. It is high and it is the same on all grades of goods. The result is that no cheap collars and cuffs are imported—only the best grades come from abroad, and many Brazilian furnishing goods establishments sell a better grade of collars and cuffs than stores in the United States. The same is true of silk and cotton mixtures. Silks bought in Brazil are either very poor in quality or they are very good. None but the best champagnes are imported. The rule holds good in cutlery, in shoes, in nearly all lines of imported fabrics, clothing, foods, and most goods of common consumption.

HEAVY INSPECTION CHARGES.

In addition to the high import duties charged upon the average on Brazilian imports there are a number of special charges which amount to additional duties and which have even more force in hindering

importations than import duties themselves. Among these are the charges for the analysis and inspection of some classes of merchandise, notably food, medicinal, and beverage products. The laws of Brazil governing the sale of food products are very strict as to purity, contents, marks, brands, and similar requirements. Few preservatives are tolerated in even the slightest degree. All foods, beverages, medicinal preparations, and articles intended for human consumption in any form must be examined, analyzed, and approved by Government authorities before being admitted.

This is interpreted to mean that each consignment of any food product must be examined, and often the examination extends to each package. Each consignment of flour, for instance, though it may be of a well-known brand, must be passed upon by the Government laboratory authorities, for which a fee of Rs. 20$, or about $6, ordinarily is charged. In some lines of goods each separate case is examined. In the line of fruit preserves and conserves, as well as in other valuable food products, the loss due to actual goods taken for analysis amounts to a very considerable item in the cost of importation.

In the case of custom-house blockades, which have been of rather common occurrence in Brazilian ports in the past two years, delay for the examination and analysis of goods has resulted in the goods spoiling, in which event, of course, they could not be passed, and were a total loss. The matter of the inspection of food products has been of particular importance to the United States, because of the large proportion of American exports to Brazil consisting of such goods.

THE DISPATCHING OF GOODS.

Another material change which acts as an increase of import duties arises from the clearance of goods through the custom-houses. To be passed through a custom-house in Brazil goods must pass through the hands of a "despachante." The "despachante" is something more than a custom-house broker such as are known in the United States and elsewhere. In Brazil the owner or importer of goods can not go to the custom-house and get them.

Under the law the goods can only be delivered to a "despachante" on the order of the owner or importer. The "despachante" gives a bond to the Brazilian Government for the faithful performance of his duties. The owner or importer signs an order for the goods on an official blank, which is stamped with Government tax stamps. Then the dispatcher looks after the proper custom-house entry, pays the duty with money furnished by the importer for that purpose, and looks after the transportation of the goods from the custom-house to the place desired by the importer.

Aside from transportation charges, upon which he generally makes a large profit, the dispatcher charges a fee for his services. The charge runs all the way from a milreis (30 cents) to 25 milreis ($7.50) per package, or even more if he deems the service is worth more. This matter of dispatching, therefore, is often a serious addition to the cost of imports.

Failure to properly clear goods through and remove them from a custom-house leads to the imposition of storage charges in geometrical ratio, so that the value of goods is often eaten up in a com-

paratively short time. Goods not cleared or held for storage charges are auctioned to the public at stated intervals.

FINES AND PENALTIES.

One of the features of the Brazilian tariff system which has caused considerable trouble to American exporters is the system of fines and penalties which is attached not only to actual and intentional infractions of the law, but which arise even in cases where there is actual and proper differences of opinion. For instance, in entering goods for importation in Brazil it is necessary to enter them in the right class or be fined for making the mistake. In case the importer is not satisfied with the ruling he can appeal to a board composed of customs officials and thence to the ministry of finance. If he wins, he is free from a fine or a penalty and gains his point. If he loses, he is fined, whether there was reasonable ground for his contention or not. It should be added that under the law half of the fine goes to the informer or the customs officer discovering the error.

INVOICES.

All goods imported into Brazil, except samples worth less than Rs. 100$ or $30, and weighing less than 10 kilos or 22 pounds, and also limited as to size, or coming by parcels post, must be invoiced before a Brazilian consular officer in the United States in practically the same manner as is required by the United States.

Failure to properly invoice such goods and to present the invoice at the time of entering the goods for importation leads to the giving of a bond for the production of a proper invoice within a specified period, generally three months, and failure to produce the invoice at that time leads to a fine. Failure to produce the invoice in the first instance not only leads to the trouble and expense of giving bond, but practically operates to prevent the clearance of the goods without great difficulty. It should be noted also that the tariff laws are strictly enforced with regard to goods of tourists and immigrants.

RELATIONS WITH THE UNITED STATES.

The United States, by reason of its admission free of duty and purchase of so great a portion of Brazil's exports of coffee and rubber, having taken about half of the total exports of all kinds from Brazil in the past ten years, enjoys a preferential reduction of 20 per cent of the duty upon the following American goods imported into Brazil: Wheat flour; condensed milk; inks, except writing inks; paints and varnishes; pianos; windmills; refrigerators; typewriters, linotypes, and cash registers; manufactures of rubber; watches and clocks, and scales. This preferential reduction or concession is decreed from year to year by the President of Brazil, under authority from the Brazilian Congress. No preferential is given to any other nation.

Taking the Brazilian tariff system as a whole, it has been of chief interest to the United States in relation to the heavy duties upon articles of common consumption like food products which have been produced in and exported from the United States, but which exports have, by reason of such duties, decreased in volume. However, with the rise of the iron and steel industry and the increasing volume of its products—machinery, electric apparatus, railway supplies, and

the like—the interests of the United States are at present probably not more heavily borne upon than those of its trade competitors. Brazil's tariff system is important to the United States at the present time, chiefly for the fact that its rates are so high as to restrict and reduce consumption to a minimum, even in many lines of goods where Brazilian industries have not produced substitutes.

OTHER EXPORTERS TAKING ADVANTAGE OF CONDITIONS.

The need of special care and attention to the Brazilian tariff schedule should be appreciated by every American exporter. While, on the face of things, the schedule bears heavily upon all countries, as a matter of fact the trade of the United States is suffering at the present time from the operation of the tariff to a greater extent than that of its trade rivals. In the trade in cotton goods, for example, it is the habit of American exporters to quote prices on and to export goods when possible of certain standard grades, qualities, and technical description. It does not seem to have occurred to them that such goods are precisely the ones the Brazilian tariff schedule was drawn to keep out, while goods varying somewhat from the technical description of such standard goods, but answering the same general purposes, would be admitted at more favorable rates. Exporters of other countries, with agents on the ground in Brazil, are taking advantage of every such possibility to the disadvantage of American trade. In some lines of food products, like English black beers, similar conditions prevail and the loss of possible trade is material.

Present indications are that the proposed revision of the Brazilian tariff, expected during the past two years, will not be realized.

CHILE.

REDUCTIONS OF DUTY ON VARIOUS ARTICLES.

Consul A. A. Winslow, writing from Valparaiso under date of April 21, 1908, reports as follows on recent tariff changes in Chile:

On December 16, 1907, a law was promulgated authorizing the President of the Republic to reduce progressively the duty on articles made of linen and woolen cloth and of tricot; galvanized corrugated iron; portable houses; shoes of all kinds excepting those of less than 15 centimeters or 5.85 inches in length, or those made of rubber; and on sugar of all grades. This law was put in force by a decree of the president dated March 21, 1908, making the following changes:

Articles.	Old duty.	Jan. 1, 1909.	July 1, 1909.
	Per cent. ad val.	*Per cent. ad val.*	*Per cent., ad val.*
Galvanized corrugated iron	35	30	25
Articles made of linen and woolen cloth, and tricot	35	30	25
Portable houses worth less than 15,000 pesos Chile gold, or $5,475 United States currency	35	30	25
Shoes over 15 centimeters or 5.85 inches in length, or not made of rubber	60	55	50

The duty on shoes will be further reduced to 45 per cent ad valorem on January 1, 1910; to 40 per cent on July 1, 1910, and to 35 per cent on January 1, 1911.

REDUCTIONS OF DUTY ON SUGAR.

By the same decree the duty on sugar is to be gradually reduced, as indicated in the following table, the amounts being in United States currency per 100 kilos (220 pounds):

Description.	Tariff of 1907.	After July 1, 1908.	After January 1, 1909.
Refined	$4.87	$3.50	$3.29
White, granulated or pulverized	3.80	2.19	.....
Unclarified, granulated or muscovado	2.73	1.33	.....
Raw	2.40	1.20	.....

REDUCTION OF DUTY ON BOOTS AND SHOES.

Ad valorem duties are levied in Chile not on the basis of the actual value of the imported article, but according to the value fixed in the so-called Tarifa de Avaluos (Tariff of Values). The new Tariff of Values promulgated in 1908 reduces the valuation of boots and shoes, thus indirectly causing a reduction in the amount of duty to be levied on these articles.

The following table covers the new and old values in terms of United States currency, with the rate of duty collected on the basis of those values:

Tariff No.		Description.	Value per dozen.		Ad valorem duty.
1903.	1908.		1903.	1908.	
					Per cent.
84	96	Boots and shoes of leather and other materials, except silk, for children, less than 15 centimeters	$8.76	$6.57	25
85	97	Same, with silk	17.52	13.14	25
86	98	Boots and shoes of leather and other materials, except silk, for boys	17.52	13.14	60
87	99	Same, with silk	26.28	21.90	60
88	100	Boots of leather and other materials, except silk, for women and girls	35.04	26.28	60
89	101	Same, with silk	43.80	35.04	60
90	102	Boots of leather of all classes, with top not more than 45 centimeters	73.00	65.70	60
91	103	Same, exceeding 45 centimeters	146.00	109.50	60
92	.....	Shoes of leather or other materials, except silk, for children, less than 15 centimeters	5.47	.....	25
93	.....	Same, containing silk	13.14	.....	25
94	.....	As No. 92, for children	10.95	.....	60
95	.....	Same, with silk	21.90	.....	60
96	104	Gaiters, of leather or leather and other material, except silk, for women and girls	26.28	21.90	60
97	105	Same, with silk	35.04	30.66	60
98	106	As No. 96, ordinary, for men and boys	52.56	35.04	60
	107	Same, high grade	.....	.....	60
	108	Gaiters and shoes of wool or mixed with cheaper material, with or without pieces of leather, for the sick and aged	.....	19.17	60
	109	Leather sandals, for boys	.....	8.76	60
99	110	Slippers of stamped cloth, plush, velvet, for men and women (no leather)	5.47	6.57	60
100	111	Same, with leather	9.12	8.76	60
			Kilo.	*Kilo.*	
101	112	Shoes and gaiters of any material, for games	2.92	2.92	60
102	113	Shoes or slippers of vegetable material, soles of hemp, jute, straw, etc	.51	.73	60
103	114	Of rubber	1.46	1.46	25
104	115	Wooden shoes	3.28	3.28	60
105	116	Shoes with wooden soles	5.47	6.56	60
106	117	Leather clogs, with soles of leather	21.90	21.90	60

It will be noted that there are several classes in the old Tariff of Values that do not appear in the new tariff in the same form, but have been merged into some of the others. Also that there are three new classes in the new tariff.

There are very many changes made in the Tariff of Values for 1908. They are too numerous to give in this report. [Information as to changes relating to other goods may be obtained upon application to the Bureau of Manufactures.]

The duty on cattle from the Argentine Republic has been suspended for a period of two years by an act of the Chilean Congress which took effect December 16, 1907.

EFFECT OF REDUCTION OF DUTY ON SHOE TRADE.

The consul regards the reduction of duty on shoes resulting from the new valuation as a favorable opportunity for the enlargement of sales by American shoe manufacturers. The consul says:

When it is understood that the American shoe stands very high, it is clear that now is the time to push the shoe trade in Chile. It should not be a difficult matter to compete with the Chilean-made shoe, as most of the leather used in the manufacture of shoes in this country is of inferior quality. During 1906 shoes to the value of $102,272 United States currency were imported, of which the United States supplied only $16,923, of which 95 per cent were workmen's shoes, a gain of $3,129 over 1905. England came first, with $39,049, against $50,240 for 1905.

The surest way to get this trade is to send a man into the field to study the conditions and to show the line of goods. If this be done, many times more American shoes can be sold in Chile.

DOMINICAN REPUBLIC.

REDUCTION OF SHIPPING AND TONNAGE DUES.

Minister F. R. McCreery, of Santo Domingo, transmits a translation of a new law, which went into effect on July 1 last, reducing shipping duties as follows:

Description.	New rate.	Old rate.
Tonnage dues (for sailing vessels or steamers):		
Per ton of cargo entered	$0.50	$2.00
Per ton of cargo cleared	.50	2.00
Pilotage:[a]		
Sailing vessels, per registered ton	.01	.01
Steamers, per registered ton	.005	.01
Privelege of entry, per registered ton	No charge.	.02
Anchorage, per registered ton	No charge.	.02
Charge for interpreter service	2.00	4.00
Charge for signaling service	2.00	4.00
Charge for sanitary service	2.00	4.00
Water, for each hogshead taken		1.00
Gangway, when in use, per day	No charge.	2.00

[a] Pilotage fees are charged both on entering and clearing.

FRANCE.

SUPPRESSION OF ADULTERATED WINES AND LIQUORS.

Consul-General Frank H. Mason, in transmitting a copy of the recently promulgated regulations for the suppression of adulterated wines, sends the following succinct summary of the new decree:

On September 3, 1907, an executive decree was issued by the President of the French Republic, prescribing elaborate regulations for the enforcement of the law of August 1, 1905, for the suppression of the production and sale of falsified wines, liqueurs, and other alimentary products. By the terms of the decree a delay of six months was given to enable everyone concerned to regulate and adapt his business to its requirements, and it therefore went into effect on the 3d of March, 1908.

The statute and the decree form the culmination of a long series of enactments which have been adopted, and more or less imperfectly enforced, during the past thirty years for the suppression of frauds and adulterations in the manufacture and sale of drinks and food products. These several statutes and decrees have been collected and published in a pamphlet edition, two copies of which are transmitted as exhibits with this report. This pamphlet contains the full official text of all laws now in force in France on this general subject from the statute of August 14, 1889—which was so constructed as to enable any purchaser of wine in France to know exactly the nature of the up and includes the substance of all preceding legislation on the same product purchased—down to the decree of September last, which sums subject.

STRINGENCY OF LAW.

The general nature of these regulations will be readily inferred from the following sections of the decree, which are selected for translation because they will indicate most concisely the spirit of the system of pure-food regulations which is now enforced in France:

ARTICLE 1. No beverage shall be kept or transported for the purpose of sale, or sold or offered for sale under the name of wine, which is not derived exclusively from the fermentation of fresh grapes or the juice of fresh grapes.

Article 6 forbids the keeping, transportation, sale, or offering for sale as brandy, spirit of wine, or vinous alcohol, any product which is not derived exclusively from the distillation of wine, and the same restriction is made to cover cider, kirsch, prune brandy, and liquors derived from other fruits. Each is required to be the pure, unmixed product of a designated fruit, under the name of which it is sold. This prohibits all admixture of alcohol derived from potatoes, grain, or other farinaceous materials.

The decree is especially stringent in regard to labels, names, and designations of wines and liquors.

Articles 10 and 11 provide for the absolute protection of the recognized and established names of wines, based on the château, vineyard, or district from which they are derived. Article 11 prescribes that "It is forbidden that any dealer in wines, brandy, or other liquors shall use in labels, marks, invoices, or other commercial papers, or on packages or receipts, the word 'proprietor,' 'wine grower,' 'agent,' 'merchant,' or 'dealer' in a product bearing the name of a region or a special vintage from a district or territory in which he does not own property or vineyard or a commercial establishment."

The use of special names of estates, vineyards, or districts on labels, :ks, capsules, casks, packing cases, invoices, or advertisements in

any way which can deceive or confuse the mind of a purchaser as to the origin, nature, quality, or value of any wine, liquor, or cordial kept or offered for sale or sold, is forbidden under exemplary penalties.

MARKS AND TERMS.

All blended or mixed wines, even if composed of two or more pure wines, must be marked " fantaisie " (artificial) in letters as large as those of the name under which the mixture is sold. Any champagne grown outside the departments which form the old province of Champagne must be so labeled as to indicate that fact and its place of origin. The generic designations " Bordeaux " and " Burgundy " may not be applied to wines blended with those of any other district.

In brandies the term " Cognac " is reserved exclusively for brandies distilled in the departments of the Charente and the Charente Inférieure, the original district, the mart of which is the city of Cognac, and which has an exclusive right to the title.

The ministries of justice, agriculture, commerce, and industry are all charged with the execution of the decree, so that the whole code of pure food and drink laws and regulations has behind it the full vigor and authority of the French Government.

RESTRICTIONS IN MANUFACTURE OF TIN CANS FOR FOOD.

The British Board of Trade Journal of July 16 contains a report from the British ambassador to France to the effect that a circular was recently addressed by the French minister of the interior to the prefects throughout France, instructing them to publish regulations concerning the manufacture of tin cans for provisions, prohibiting the use of tinplate and of inside solder, other than those made with pure tin, and of paint containing lead. The restrictions regarding tinplate and solder are said to be already in force, but that relating to the use of paint containing lead is new. The sale of tin cans not made in conformity with these regulations is prohibited, and the ambassador remarks that this prohibition will presumably affect the importation of such cans into France; he is informed that instructions in this connection have not yet been issued to the French customs authorities, but that they will doubtless be sent in due course.

GREAT BRITAIN.

NEW REGULATIONS GOVERNING INSPECTION OF FOREIGN MEAT.

Consul-General Robert J. Wynne has forwarded a copy of the draft of new regulations of the British local government board for the inspection of foreign meat. These regulations are to come into operation on November 1, 1908, and will apply to and have effect throughout England and Wales. [The regulations may be seen at the Bureau of Manufactures.]

MEXICO.

INCREASES OF DUTY ON SEVERAL ARTICLES.

The Diario Oficial of June 16 contains a decree of the President of the Republic promulgating the following changes in the Mexican tariff: The removal of duty on benzol, provided for under tariff No.

278A, took effect July 1; the other changes of duty on August 16. (A peso equals 49.8 cents United States currency.)

Tariff No.	Articles.	Rate of duty. New.	Rate of duty. Old.
		Pesos.	*Pesos.*
176	Tobacco, plug, for chewing.....kilo, legal..	1.70	1.10
228	Steel in bars, round, square, flat, channel, in an octagonal or hexagonal section, or cruciform.....100 kilos, gross..	6.00	5.50
228A	Steel in bars, of all forms and sections, with designs, channels, indentations, or wrought in symmetrical designs on its entire surface, or only part thereof.....100 kilos, gross..	7.00	5.50
241A	Iron in bars, of all forms and sections, with designs, channels, indentations, or wrought in symmetrical designs on its entire surface, or only part thereof.....100 kilos, gross..	7.00	6.00
248	Rails of iron and steel for railways,[a] and switches[b], disks,[b] sleepers,[b] and frogs[b].....100 kilos, gross..	2.50	2.00
249	Screws, bed-plates, attachments and bolts, of iron or steel for attaching rails.....kilo, gross..	.03	.01
250	Beams and joists of iron or steel, when not specially perforated or slotted.....100 kilos, gross..	3.50	3.00
251	Beams, joists, and columns of iron or steel, when specially perforated or slotted; frames, brackets, base plates for columns, butt or connecting plates, braces or tie beams, with or without nuts, and other parts, not specially mentioned, of iron or steel, for construction purposes..kilo, gross..	.05	.04
268	Common and hydraulic lime, Roman or Portland cement, and carbonate of lime or Spanish white.....100 kilos, gross..	.70	.55
278A	Benzol.....kilo, legal..	Free.	.09
368	Ready-made clothing, not specially mentioned, and separate parts thereof, when sewn, of cotton fabrics of all kinds and textures, even ornamented with lace or embroidery, of cotton or linen, or common metal, for adults and children [c].....kilo, legal..	2.75	2.75
369	Do., when ornamented with ribbons or tissue containing silk, or with skirts or overskirts of lace or point of cotton [c].....kilo, legal..	3.30	3.30
527	Absorbent cotton and gauze (even when sterilized or prepared with antiseptics).....kilo, legal..	.25	.25
557	Common salt, granulated or in blocks.....kilo, gross..	.02	.02
557A	Common salt, ground for table use (even when imported in cotton bags).....kilo, gross..	.03	.02
630	Carriages, skeleton, not upholstered or painted, weighing up to 250 kilos.....kilo, net..	.45	.33
631	Do., weighing more than 250 kilos and not exceeding 750 kilos .....do.... (The duty on the first 250 kilos of each vehicle shall be 0.45 peso per kilo, and each additional kilo, up to the limit specified, shall pay 0.33 peso.)	.33	.22
634	Running gear (front or rear, and separate parts thereof not specially mentioned), poles and shafts of wood or of wood and common metal, and wheels for wagons or carriages; all these painted or varnished .....kilo, net..	.66	.30
634A	Running gear (front or rear, and separate parts thereof not specially mentioned), poles and shafts of wood or of wood and common metal, and wheels, not painted, for wagons or carriages, neither painted nor varnished .....kilo, net..	.45	.30

[a] The old duty was 1 peso per 100 kilos on rails weighing not more than 10 kilos per lineal meter and 2 pesos on those weighing more than 10 kilos.
[b] The old duty was 1 peso per 100 kilos.
[c] Only the classification has been changed in this case, the rate remaining the same.

MOROCCO.

NEW WAREHOUSE TAXES.

Consul-General F. D. Hill, writing from Barcelona, Spain, transmits the substance of a new law which went into effect June 15 last, establishing a tax on all merchandise landed and stored at Moroccan ports, whether for import or export. The provisions of the law are as follows:

Goods remaining in warehouse for a longer period than twenty days are to be subject to a tax of two-fifths of a Moroccan dollar (about 30 cents) per 100 kilos (220 pounds) per month.

Postal packets and samples of no commercial value are exempt from the payment of the tax.

Explosives will commence to be subject to the payment of the tax after the expiration of five days from being disembarked.

Coal, charcoal, lumber, marble, bricks, tiles, casks, empty boxes, and all unmanufactured articles, barrels, etc., will not be stored inside the warehouses, but will nevertheless be taxed at the rate of one-fifth Moroccan dollar (about 15 cents) for 100 kilos (220 pounds) of merchandise per month.

Cereals and forage will be permitted to remain on the wharf for not more than forty-eight hours.

No merchandise will be permitted to remain in the warehouses longer than six months. Upon the expiration of this term the proprietors will be notified that the merchandise will be sold thirty days after the date of such notification, unless removed. The proceeds of the sale, after deducting the amount of the duty and expenses, will be held at the disposal of the interested party.

PERU.

ADDITIONAL DUTY ON IMPORTS AT CALLAO.

The Monthly Consular and Trade Reports for May, 1908, contained a note reproduced from the British Board of Trade Journal to the effect that "the Peruvian Government has imposed an additional duty of 2 per cent on imports through the Callao customs-house." The Bureau of Manufactures has now received a report from Consul-General Samuel M. Taylor, dated at Callao May 20, to the effect that the 2 per cent additional duty is not new, having been in effect for some time. The consul-general gives the following summary of the duties levied in Peru on imported articles:

First. Customs duty, as per tariff in force (for General Government purposes).

Second. Eight per cent additional applied to current service.

Third. Two per cent additional for the exclusive benefit of Callao and Lima municipalities.

Fourth. One per cent additional applied to storage of merchandise in fiscal warehouses. The first three items are collected by the Callao customs service, and the fourth by the National Salt Company. This company has had charge of the Government warehouses since January 1, 1908, and this is the only new tax in recent months.

SOUTH AFRICAN CUSTOMS UNION.

RESULTS OF INTERCOLONIAL CUSTOMS CONFERENCE.

Supplementing previous reports on the Intercolonial Customs Conference published in the Daily Consular and Trade Reports, Vice-Consul-General G. L. Foster, of Cape Town, transmits the following resolutions adopted by the conference, by which the existing arrangement is to remain in force for at least another year:

This conference, having regard to the practical impossibility under existing conditions of reconciling the differences in the financial requirements and economic policies of the various South African governments; having regard also

to the fact that, if a satisfactory settlement results from the proposals for closer union, any alterations now made in the customs and railway tariffs must of necessity be temporary and provisional, decides that it is inexpedient to disturb existing fiscal arrangements, and that the present customs convention be continued until June 30, 1909, subject to such minor modifications as may be agreed upon at this conference, and thereafter, for periods of twelve months, provided that any party thereto may give not less than three months' notice, either before or after June 30, 1909, of its wish to amend the convention, or its intention to retire therefrom as from June 30, following such notice.

It was also decided that the National Convention on Closer Union should open its sittings at Durban, but the date of meeting will depend upon the intervening sessions of the various colonial parliaments.

CHANGES IN RATES OF IMPORT DUTY.

Under date of June 24 Vice-Consul-General G. L. Foster transmits a statement of the changes in rates of duty agreed upon at the Inter-Colonial Conference. The consul states that while it has been arranged to collect duties from June 24 according to the alterations, ratification of the changes is necessary by the various parliaments before they can be said to become permanent and legal. Such ratification is confidently anticipated. The changes in rates are as follows:

BEADS.

Under the tariff of 1906, beads are divided into two classes: "Kafir" beads, which were rated at 6¼d. (12.5 cents) per pound, with a rebate of one-fourth pence (one-half cent) in favor of the United Kingdom and reciprocating colonies, and "other beads," which were rated at 15 per cent ad valorem, with a rebate of 3 per cent ad valorem in favor of the United Kingdom and reciprocating colonies. The new tariff makes no distinction between "Kafir" and "other" beads, which in future will be rated at 6¼d. per pound, or 25 per cent ad valorem, whichever duty shall be the greater, with a rebate of one-fourth pence, or 3 per cent ad valorem, as the case may be.

The total importations of Kafir beads into British South Africa last year was 540,819 pounds, valued at £15,619. No beads appear as having been imported from the United States for the past two years.

BARLEY, MALTED.

Under the tariff of 1906 the duty stood at 2s. (49 cents) per 100 pounds, with a rebate of 2d. (4 cents) per 100 pounds in favor of the United Kingdom and reciprocating colonies. The new duty is 2s. 9d. (67 cents) per 100 pounds, with a rebate of 3d. (6 cents).

The total importations of malt into British South Africa in 1907 were 14,148,418 pounds. In 1906 malt was imported from the United States to the value of $403.92. In 1907 there were no importations from the United States.

GLUCOSE.

The duty on glucose in bulk under the 1906 tariff was 3 per cent ad valorem, the whole of which was rebated on imports from the United Kingdom and reciprocating colonies. Under the new tariff the duty is raised to 3s. 6d. (85 cents) per 100 pounds and no rebate is allowed.

The total imports of glucose into British South Africa in 1907 were 2,179,555 pounds. The importations of glucose in 1906 and 1907 were

principally from the United States, being for those years 2,843,144 pounds and 2,179,555 pounds, respectively, or 91 per cent in 1906 and 68 per cent in 1907 of the total importations.

VINEGAR AND ESSENCES THEREOF.

The duties on vinegar remain practically unchanged, except that the definition of vinegar, which in the old tariff described it for customs purposes as "vinegar of standard strength, fit for immediate use as such," has been omitted, and the duty will now be applied to vinegar of any strength, not exceeding the strength of proof, proof being held to be equal to 6 per cent of absolute acid. The new tariff, however, provides that there shall be an additional duty of 4d. per degree for each degree of strength in excess of proof.

Included in this scale of duties, under the new tariff, are extracts or essences of vinegar, acid, acetic and pyroligenous. The duty existing hitherto on acetic acid has been 3s. 3d. (79 cents) per gallon, and the additional duty of 4d. per degree of strength in excess of proof will, of course, involve a very heavy increase in the rates on extracts, essences, and acetic acid.

Very little vinegar has been imported from the United States, the value of that in 1906 being $150.86 and that in 1907 $583.98. No vinegar in bottles and no extracts or essences of vinegar were imported from the United States in either of those years.

RIDING SADDLES.

Under the 1906 tariff the duty on riding saddles was 15 per cent ad valorem, with a rebate of 3 per cent ad valorem in favor of the United Kingdom and reciprocating colonies. Under the new tariff the duty is raised to 25 per cent ad valorem, with a rebate of 3 per cent ad valorem.

The importations of saddlery and harness from the United States of America in 1906 only amounted in value to $6,949.36, and those in 1907 to $2,744.71. No returns for the separate articles are obtainable.

CUPS, MEDALS, AND TROPHIES.

"Cups, medals, or other trophies imported for presentation as prizes at examinations, exhibitions, shows, or other competitions, not of a public character, for skill or sport" have hitherto been admitted free. The new tariff provides for a duty of 15 per cent ad valorem, with a rebate of 3 per cent ad valorem in favor of the United Kingdom and reciprocating colonies.

These items are principally imported from England, and do not interest the American manufacturer.

OILS.

"Oils: Palm, palm kernel, cotton seed, and cocoanut, in bulk, not intended for manufacturing purposes" are rated under the new tariff at 15 per cent ad valorem, with a rebate of 3 per cent in favor of the United Kingdom and reciprocating colonies. These, with the exception of cocoanut soap fat, the duty on which remains unchanged, hitherto have been admitted f

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1906 and 1907 the respective importations of cotton-seed oil from the United States were 118,018 gallons and 108,885 gallons, exclusive of some imported as salad oil. The principal importations were in bulk.

POTASSIUM AND SODIUM CHLORIDE.

The duty on these articles has hitherto been 3 per cent ad valorem, with a rebate of the entire duty on imports from the United Kingdom and reciprocating colonies. Under the new tariff the duty is raised to 15 per cent ad valorem, with a rebate of 3 per cent ad valorem in favor of the United Kingdom and reciprocating colonies. Importations of these items from the United States for the past two years do not amount in value to $100.

VENEZUELA.

CLASSIFICATION OF COARSE CAMEL HAIR CLOTH.

Consular Agent John Brewer reports from Caracas under date of July 3, that according to the decree of July 1, 1908, camel hair cloth employed in the extraction of cotton-seed oil, is to be dutiable under class 2 of the customs tariff of Venezuela (at the rate of 1.93 cents per 2.2 pounds).

MISCELLANEOUS.

DISCOVERIES AND INVENTIONS.

UNITED KINGDOM.

CHEMICAL PRODUCTS TO ACT AS SUBSTITUTES FOR MANY ARTICLES.

Consul Maxwell Blake, writing from Dunfermline, gives the following account of two new European compounds which are designed for a diversity of uses:

The discovery has just been announced in Scottish newspapers of a substance composed of a mixture of seaweed, carpet dust, goat's hair, Irish moss, and gums, together with some secret chemical ingredient or process, which produces a composition said to be a good substitute for leather and various other materials, as it can be used equally well in a fluid, pliable, or hard state.

It is admitted by the discoverer that his composition is not equal in quality to the best materials imitated; but he claims as to leather that it provides an excellent substitute for the manufacture of articles of the cheaper grades of goods. The product has already been made up into boots and shoes, and its durability successfully tested by policemen, postmen, and others whose duty involves a large amount of walking. Two or three thousand feet of belting in machine shops is also in use at the present time, to which purpose it is said to be especially well adapted, as it is impervious to oils and acids, is noninflammable, and does not shrink under the varying conditions of the atmosphere.

In its hard state it is said to be a cheap and practical substitute for vulcanite, and can be purchased for less than one-fourth the price of the latter. Imitations of marble and wood are produced by hydraulic pressure, the seaweed suggesting the veins or grain. In its fluid state it can be applied to a floor, and when allowed to set it forms a permanent surface of linoleum. The seaweed is obtained from Devonshire, and the more expensive varieties for the manufacture of marbles from Japan.

SOON TO APPEAR ON THE MARKET.

As a factory for the manufacture of this unnamed product is now in the course of construction, it is likely to very soon appear as a marketable commodity.

Another chemical discovery, or rather rediscovery of what was an old Roman secret known to have been used about six hundred years ago, which likewise seems full of practical possibilities, is a liquid preparation to prevent iron rust and wall dampness. When applied to the bottom plates of ships it is said to prevent oxidation, animal or vegetable marine parasites and growths, and, besides preserving

the life of the iron plates, will also add to the speed of liners and war ships. When the inside of a ship is coated over with this liquid it stops the "weeping" of the inner skins of the iron sides, which, as shippers so well know, is so often the cause of much damage to ships' cargoes.

Freshly plastered rooms when painted with the same preparation, admit of immediate occupancy or decoration, as the paper can be applied without delay or damage. The tests have extended over a period of many months and the results have been announced as successful. My inquiries to date, however, have failed to elicit any definite information as to its commercial manufacture, as it is reported that experimentation has not yet been concluded.

GERMANY.

CHEMISTS HAVE WORKED OUT MANY INDUSTRIAL IMPROVEMENTS.

Consular Agent John B. Brewer, at Wiesbaden, describes the further activity of a German firm of chemists, which he says has accomplished a new invention for the welding of steel pipes of large dimensions; a new briquetting method for small-grained iron ores; a new power gas from bituminous coal, and the distribution of heat throughout cities.

A German company, which originated a new hydrogen process especially adapted for military aeronautics, has discovered a series of other processes related to their new water-gas system that are likely to play an important part in great American industries. Their efforts were especially fruitful in the iron and steel industries.

Above all, it is claimed that they have succeeded in welding steel pipes of large dimensions, such as neither the Mannesmann nor any other existing works can produce by their methods; at least not at the same rate of economy and quality.

The welding is done at high speed, while labor and other costs are reduced to a minimum. The textile strength in the weld as compared with the strength of the plate is 90 to 95 per cent, which is rather remarkable.

It is stated that the Japanese navy has adopted the new German system for the welding of their military masts on war ships, etc., and that, after the same system, a British welding company has been formed this spring at Glasgow.

Astonishing results have also been obtained by the firm in question in a peculiar iron-briquetting method especially adapted for the conversion of fine grained, dustlike iron ores like those of the Mesaba range. As is known, these ores can now be worked in the blast furnaces only by a very inconvenient, wasteful, and therefore expensive system. By the new German hydrogen gas process, however, they are converted into extremely hard and porous lumps, in which the contents of pure iron are not, as with the other briquetting methods, diminished and deteriorated by admixtures, but rather increased and chemically improved.

The chemists are also the inventors of an apparatus for making an absolutely tar-free producer gas, or, more correctly, a power gas from bituminous coal. Thereby they have solved another important

technical problem in supplying a new fuel and thereby giving a new and many-sided use to the gas motor, especially in those large industries where heretofore it had been operated almost exclusively by the blast-furnace gases, anthracite proving too expensive.

It is understood that still another feature of their industrial programme is the general economical distribution of heat throughout whole cities and districts from one central point.

BRITISH INDIA.

NEWLY INVENTED MACHINE FOR DECORTICATING JUTE FIBER.

Consul-General William H. Michael, writing from Calcutta, says that a young engineer of Dalsing Serai, India, has invented a machine which disposes of the wood in the stems of jute at the rate of 60,000 stems per day. A description of the mechanism follows:

The reported experiments show the stems thus treated are well cleaned and without loss of or injury to the fiber. The machine is worked by a 2-horsepower engine, and is light enough to be carried onto the jute field where most convenient to be used. The machine does away with the necessity of carrying the stems off the field, leaving only the ribbons to be removed. The stems can be used for engine fuel if desired. It is claimed that the ribbons will require much less water, much less time for retting (requiring but seven days), and the bark goes off without beating.

The inventor claims from actual tests that in treating jute his machine will diminish labor 70 per cent, that 75 per cent less water will be required, and that about half the time will be required for retting as by the present process. One planter has placed an order for fifteen of the machines to be delivered in July next. The machine will doubtless increase the production of jute in India.

Samples of the jute ribbon as it comes from the machine and of the finished product, also a copy of the specifications covering the claims of the inventor upon which his patent was granted are forwarded [and are filed for public inspection at the Bureau of Manufactures].

SUBSTITUTE FOR CELLULOSE.

A NEW GERMAN COMPOUND WHICH COMPETES WITH CELLULOID.

According to Consul Thomas H. Norton, of Chemnitz, a German chemist has lately perfected a process which brings into competition with celluloid a new composition possessing similar plastic and elastic properties, but free from the easy and somewhat dangerous combustibility common to celluloid articles. The consul tells of the origin and advantages of "cellit:"

A few years ago the chemist obtained a cellulose acetate or acetylcellulose by the action of acetic acid on cotton and other forms of cellulose which possessed a high degree of compactness and toughness, but for which there was no specific technical application. Now he has succeeded in producing another form of cellulose acetate, named cellit, which is endowed with distinctly valuable properties.

It is easily soluble in such solvents as alcohol or acetic ether, which do not seriously affect the health of workmen; and, what is more important, it combines with camphor exactly as does gun cotton, yielding plastic masses quite similar to ordinary celluloid. Camphor can be replaced by other organic substances, and the resultant products range from hard and tough to soft, leather-like, even rubber-like compositions. All of these varied forms of cellit are perfectly transparent, totally unaffected by water, free from brittleness, and, above all, not readily combustible. Some varieties do not burn at all. Others burn in a flame, but combustion ceases when the flame is removed.

VALUABLE FEATURES OF NEW MATERIAL.

The different properties of cellit are characteristic of glass, gelatin, celluloid, leather, and rubber, and it is capable of replacing each of these materials for divers purposes. Probably new technical applications will soon arise, as we have lacked hitherto a substance at once transparent as glass and pliable as a woven fabric.

It would seem to lend itself admirably for decorative effects, as it can be molded like crystal or receive the delicate imprint of the finest designs. The sheets of cellit are prepared in all degrees of hardness for the purpose of receiving impressions. The results sometimes resemble enamel, again fine leather, or entirely novel effects are evolved. Especially interesting are the specimens of patent leather and of linoleum coated with cellit. The designs of the linoleum are not printed on the surface of the tissue, but are part of the transparent cellit coating with greatly enhanced effect.

Cellit insulation for electric wires combines the advantages over the present materials of cheapness and more attractive appearance, while occupying less space.

A distinct field exists for cellit in preparing waterproof, air-tight containers for perfumery, bonbons, etc.; in meeting many needs of the bookbinder and of the surgeon; in the manufacture of toys, fans, and various articles of domestic use where resistance to water and pliability are the chief requirements.

USE FOR HOLLOW OBJECTS AND PICTURE FILMS.

To what extent cellit can replace celluloid is not yet definitely ascertained. Certain technical difficulties have recently been overcome in blowing articles of the new substance. Such hollow objects as balls, dolls' heads, and the like are now as easily prepared as from celluloid.

The latest application is among the most important. It is the use of cellit films for the cinematograph. Its manifest superiority over celluloid for this purpose results from its noncombustibility.

A cellit film exposed for ten minutes to the concentrated light of an arc lamp does not exhibit the slightest alteration. A celluloid film, under the same conditions, bursts into flame after the lapse of only three seconds. The cinematograph has now entered so extensively into the category of popular entertainments that a film material will be most welcome which will obviate the serious danger thus far attendant upon the employment of the current mechanism and already productive of several tragic catastrophes.

POPULATION OF CHINA.

ESTIMATED NUMBER OF RESIDENTS, BOTH NATIVE AND FOREIGN.

Vice-Consul Ernest Vollmer, of Tsingtau, furnishes the following official Chinese estimated statistics for the year 1907 of the Chinese population of the Empire, as well as a tabulation of the number of foreign residents and firms throughout the country:

Nationality.	Firms.	Persons.	Nationality.	Firms.	Persons.
American	115	2,862	Japanese	1,416	45,610
Austrian	17	259	Korean	.....	41
Belgian	9	292	Norwegian	5	182
Brazilian	.....	1	Portuguese	57	3,188
British	490	9,205	Russian	24	479
Danish	14	197	Spanish	70	266
Dutch	16	286	Swedish	2	157
French	99	2,201	Nontreaty powers	1	219
German	289	3,553			
Italian	21	854	Total	2,595	69,852

Apparently the foregoing figures do not include foreign troops on duty in the East. The population of China is only estimated, exact returns being impossible at present. The following table gives the estimates by the Chinese customs service:

Province.	Population.	Province.	Population.
Shengking	16,000,000	Chekiang	11,800,000
Chili	29,400,000	Fukien	20,000,000
Shantung	38,000,000	Kwangtung	32,000,000
Szechwan	79,500,000	Kwangsi	8,000,000
Hunan	22,000,000	Yunnan	8,000,000
Hupeh	34,000,000	Shansi, Shensi, Kansu, Honan, and Kweichow	55,000,000
Kiangsi	24,534,000		
Anhwei	36,000,000		
Kiangsu	23,980,000	Total	438,214,000

DOMESTICATION OF ELEPHANTS.

FARMING EXPERIMENTS BEING CARRIED ON IN THE AFRICAN KONGO.

In forwarding a report by Vice-Consul-General Lucien Memminger on the experiments being made at Api to domesticate and train elephants for transport service, Consul-General James A. Smith, of Boma, says that the question of transport is one of the most difficult with which the Kongo administration has to deal, and the report seems of great interest in showing that the African elephant, heretofore of value only for his ivory, may in future contribute in no small measure to a solution of the problem in regions difficult of access by other means. The report reads:

Experiments in the domestication and training of elephants in the Kongo Free State indicate that they can be used to advantage for porterage work in regions where the opening up of the country is most difficult because of lack of transportation facilities. Contrary to the general belief that Central African elephants could not be tamed and made to perform the same service as their Asiatic fellows in India, a bulletin issued by the Kongo government announces the

complete success of experiments conducted at an "elephant farm" at Api, in the Uele district in the northern section of the State.

PRACTICAL RESULTS ATTAINED.

Here a small herd of young elephants has been kept in captivity for several years, and, finally, after much effort in training them, satisfactory results have been obtained. The director of the elephant station, in an official report, says these experiments demonstrate that the African elephant can live in captivity, and that by good treatment they can be induced to perform labor. Already the oldest members of the elephant farm at Api execute the porterage and traction work of the station. They carry drivers on their backs and pack saddles with loads. Some draw wagonettes, and other are trained to draw the plow.

None of the animals are more than 7 years old, and since the Indian elephants are most efficient at the adult age, 15 years, it is believed even better results may be looked for. Mortality among the elephants newly captured has been great, and as yet it has not been possible to attempt to breed them in captivity, but experience is solving the problems of domestication; the deaths are now few, and fresh recruits are constantly being added. With a beginning thus made the scope of the work at Api will doubtless be enlarged and eventually, it is expected, elephant caravans will be established. Success in the undertaking means a great deal for the future of the country. Despite railroads and steamboat lines, the Kongo will always be a country of forests and of savannas intersected with swamps.

USE AND CONSERVATION OF ELEPHANTS.

European stock does not survive in the tropical heat, and native carriers can be employed only to a limited extent. The elephant is not affected by the tse-tse fly; it can ford the most steeply embanked and rapid streams, and, of still greater importance, can cross the swamp lands encountered so frequently in the upper Kongo and so often a barrier to men on foot. In establishing lines of communication to the regions so difficult of access and to supplement the regular commercial routes elephants may prove indispensable. They should be of even greater value to the white man penetrating central Africa than in the jungles of Hindustan.

Probably in no part of Africa are elephants found in greater number than in the basin of the Kongo. Recoiling before the advance of civilization, herds which once thickly occupied all the humid countries of central Africa—more especially in the region from 17° N. latitude southward—are now thinning or else gathering in regions inaccessible to hunters. They still range freely in many parts of the Kongo, though not easily found near posts long established.

White hunters must obtain, at a cost of 500 francs ($96.50), a permit for killing them as game or for ivory, and the number allowed to be killed by each hunter is limited, as well as the time validity of the permit. Natives must also obtain permission to kill them. By these provisions wholesale slaughter is in a measure checked and the supply of ivory thus partially preserved. But for the permanent preservation of this source of wealth and of the species the experiments in domestication at Api also have their value.

CHARACTERISTICS OF THE AFRICAN TYPE.

By closely studying the habits and characteristics of central African elephants in the work at the Api farm much information of scientific value about the comparatively little known Kongo variety was obtained. In the region of vast plains cut by rivers and swampy streams of the Uele district the elephants thrive. They live especially in the marshy regions, feeding on the grass of the plains in the early morning and returning to the shelter of near-by forests when the sun's rays grow warm. Rarely are the solitary "rogue" elephants met in the Kongo. The African species are found generally in families of 3 to 6 individuals, but troops of 20, 30, or 100 individuals are not rare, and witnesses even affirm that troops of several hundreds exist.

Shunning man and as a rule fleeing at his approach, the African elephant when attacked often shows fight and is dangerous prey. Kongo specimens have to a marked degree the characteristics which distinguish them from the species of Asia. These, to outward appearance, are particularly the form of the skull and the very large ears. The latter even stretch back beyond the neck and cover part of the flank. In color the Kongo elephants are of a grayish blue, almost slate-like tint. No one has ever reported seeing specimens of the sacred white elephant of India here. In size Kongo elephants have been killed more than 14 feet high at the withers and reckoned at more than 8 tons in weight. Tusks obtained are sometimes more than 200 pounds in weight and 6 feet and a half in length.

BRAZILIAN EXPOSITION.

DESCRIPTION OF THE BUILDINGS—EXHIBITS OF AMERICAN GOODS.

In reporting that the opening of the Brazilian National Exposition, set for June 15, was postponed to July 14, Consul-General George E. Anderson, of Rio de Janeiro, describes the buildings and speaks of American exhibits as follows:

The first building on the right as one enters the grounds is the Exhibition Palace, the main building of the exposition. It covers an area of 38,750 square feet and is of three stories. Next is machinery hall, occupied altogether by machinery used to run the exhibition. There is a Federal district building, pavilions used by the botanical garden exhibit, the forestry and garden bureaus, music pavilion, fire stations, theaters, Portuguese pavilion, carriage and motor-car pavilion, restaurants, skating rink and other places of amusement. Several of the State buildings are of notable size, that of Minas Geraes covering 7,535 square feet; São Paulo twice that surface; Bahia, 5,382 square feet, while the pavilion for carriages and motors covers 12,917 square feet.

The exhibits from the United States direct are housed in the Palace of Industry, and the representatives of such American concerns making exhibits who are now here express themselves as well satisfied with their location and their prospects. American exhibits so far received consist almost altogether of cotton and rice machinery, but it is arranged that other notable exhibits in the line of general

agricultural machinery will be installed. The number of American exhibitors is comparatively limited because of the fact that such exhibits have been limited to agricultural implements, and combination arrangements with manufacturers in other lines for a division of expenses of men to look after exhibits of several manufacturers in different lines have not been possible. The national, rather than international, character of the exposition, also, has raised doubts in the minds of many exporters as to customs arrangements. The manner in which the exhibition authorities have taken charge of the admission of exhibits, however, has been very satisfactory.

JAPANESE COLLECTING SAMPLES.

GOVERNMENT REPRESENTATIVES ABROAD GATHERING MANUFACTURES.

Consul Hunter Sharp writes as follows from Kobe in regard to Japanese efforts to promote manufacturing in the Empire:

To enable Japan to compete favorably in the commerce of to-day the Japanese Government has adopted the practice of requiring their diplomatic and consular officers abroad, more particularly those stationed in the United States, Great Britain, France, Germany, and China, to procure and forward to the department of agriculture and commerce for their museum at Tokyo samples of articles, either manufactured in their respective districts or imported into them, which are competing or are likely to compete with Japanese productions or samples of articles which Japan might possibly be able to produce.

These samples are renewed from year to year, those left over from the previous one being sent to the different prefectures for distribution among persons interested.

Though I believe this practice has been in operation for several years and the results obtained have proved satisfactory, it is not generally known in business circles.

ITALIAN TRAMWAY TUNNEL.

CLAIMED TO BE THE LARGEST ONE USED BY A STREET RAILWAY.

Vice-Consul Angelo Boragino reports that a tunnel more than a mile in length, said to be the longest in existence for use by municipal electric surface car lines, has just been opened for operation by the Genoa Street Railway Company. It connects Genoa with the adjacent large commune of Rivarolo, which previously was reached by circling the mountain, the distance being now shortened 1⅓ miles, and the trip is made in fifteen minutes less time. Constructive works began on June 1, 1905. The boring was accomplished by 900 workmen, partly by hand, by electrical machines, and by compressed-air machines.

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